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THE CCI-400 INPUT AND EDITING SYSTEM

The operation of the CCI-400 system involves three distinctly different categories: the operation of the video display terminals; the preparation of copy for the system; and the use of the console teletype for system management functions. Accordingly, this manual is divided into three parts: the System Manager's Guide, the Terminal Operator's Guide and the Composition Mark-Up Guide.

SYSTEM GENERATION

The teletype associated with the system is utilized as a console to communicate with the computer. The operation falls into three main categories: the initialization of disk packs, loading of programs (which is done prior to actual operation) and the actual control functions performed from the teletype during system operation.

Disk Pack Initialization

When a system is initially set up, a disk pack initialization will take place with the purpose of establishing the appropriate sectors and sector link information on the new pack.

For this purpose a disk pack initialization program called **DPIT** is utilized. The program is furnished as a paper tape.

To start the disk pack initialization, load the tape in the Paper Tape Reader, turn the reader to run, and type 12L at the teletype.

The system will read the program loader part of the tape and come to a halt. Type P and the system will read the rest of the tape.

After the tape is read, the teletype will print the following message:

```
DISK PACK INITIALIZATION
DISK DRIVE (1 = 25MG, 2 = 50MGB): 1 ret
MOUNT PACK ON DRIVE 1
WHEN READY REPLY 'G': G ret
DISK TYPE (1 = MASTER, 2 = ARCHIVE): 1 ret
DISK ID (4 CHARS): DEMO ret

PACK INITIALIZATION COMPLETE
```

As you see, the system asks what disk size is in use and the operator types the response 1 or 2 followed by the RETURN KEY (ret). When you are ready, type in a G followed by the RETURN KEY. The system then asks you whether it is a Master Pack or an Archive Pack and again you type in the answer followed by RETURN. Then the system asks for a disk ID and in this case we have typed in DEMO followed by RETURN.

The system starts the initialization of the disk pack and this initialization will take four to eight minutes depending on the type of disk you are using. When the initialization is complete the message PACK INITIALIZATION COMPLETE will be printed on the teletype.

Loading of the Operating System

After a disk pack has been initialized, the loading of the operating system can take place. In cases where an operating system is to be reloaded onto an already initialized pack, this same procedure applies.

The operating system is delivered to you in the form of a paper tape. Load the tape in the Paper Tape Reader, turn the reader to run, and type 12L at the teletype.

The system will read the program loader part of the tape and come to a halt. Type P and the system will read the rest of the tape.

when the tape is read, set the switches at octal 14000 (switches 3 and 4 up, all others down). Hit STOP/RESET/START and the teletype will print the following message:

```
CCI SYSTEM GENERATION
PLACE SYSTEM DISK IN DRIVE 1
ENTER 'G' WHEN READY: G ret
END OF CCI SYSGEN
```

The system requests a G followed by RETURN, then completes the system generation and reports the end of the SYSGEN procedure.

Loading of Programs

After having loaded the operating system as indicated, the loading of the programs can take place.

In order to load programs, start up the system with switches at octal 36 (switches 0, 11, 12, 13 and 14 up, all others down). Press STOP/RESET/PROGRAM LOAD and the system will type the following message:

```
CCI SYSGEN REV. A
DATE (M/D/Y): 6 4 76 ret
TIME (H/M/S): 8 15 0 ret
DEMO-1 NEW MASTER
C
WRITR ret
COS PROGRAM WRITER
ENTER PROGRAM NAME: VCOMA ret
     ENTRY ADDRESS: 42000 ret
IS ANOTHER NAME DESIRED? Y ret

ENTER PROGRAM NAME: VCOMB ret
     ENTRY ADDRESS: 32000 ret
IS ANOTHER NAME DESIRED? Y ret

ENTER PROGRAM NAME: VCOMP ret
     ENTRY ADDRESS: ret
IS ANOTHER NAME DESIRED? N ret
C
```

You type in the month, day and year followed by RETURN and then the time as hour, minute and seconds followed by RETURN. The teletype will respond with a disk ID message (in this case, DEMO-1) and since the pack has not been used before it will indicate that it is a new master and subsequently type a C.

You are now able to call up the WRITR utility program. This is done by typing WRITR followed by RETURN. The teletype will then ask you the name of the program you want to enter and in this case the three programs associated with the VIP have been entered: VCOMA, VCOMB and VCOMP.

The entry addresses as indicated are noted on the program tapes themselves. The entry addresses are typed in followed by RETURN. For the VCOMP and several other programs, no entry address is given and you simply type RETURN.

When you have pressed the RETURN button, you then hold the CONTROL button and type an X. This starts the Paper Tape Reader and reads the program you've placed in the reader.

After having read the tape, the teletype will ask, "IS ANOTHER NAME DESIRED?" If another program is to be loaded, answer with a Y followed by RETURN and repeat the procedure. If there are no more tapes, type N followed by RETURN.

System Start Up

To start up the CCI system, press RESET/PROGRAM LOAD and the system will type the following message:

```
CCI SYSGEN REV. A

DATE (M/D/Y): 6 4 76 ret
TIME (H/M/S): 9 25 0 ret
DEMO-1 0804081837
C
VCOMP ret
```

You type in the month, day and year followed by RETURN and then the time as hour, minute and seconds followed by RETURN. The teletype will respond with a disk ID message (in this case, DEMO-1) and the month, day, hour, minute and second when the disk was last brought up for actual work. Then the system will type a C.

You are now able to call up the composition program. In this sample, the VIP program called VCOMP was called up by typing VCOMP followed by RETURN. After some activity on the disk drive, the system will be ready to operate.

Disk Copy

The Disk Copy Program is a standalone program provided on paper that has to be loaded onto disk with the Loading of Program procedure described in this guide. Once it's on disk, it can be called for by typing in COPY followed by RETURN after the date and time sign in. During the COPY program, the following dialog occurs:

```
C
COPY
DISK SIZE (1 = 25MGB, 2 = 50MGB): 1 ret
SELECT PROGRAM:
  1 = FULL COPY
  2 = MOVE UTILITY FILES
  3 = CLEAN WORK AREA
  4 = MOVE PROGRAM FILE
      SELECTION NO: 1 ret
MOUNT OLD PACK ON DRIVE 1
MOUNT NEW PACK ON DRIVE 2
WHEN READY REPLY 'G': G ret

END OF PROGRAM. PRESS CONTINUE TO RESTART COPY
```

As you see, the teletype asks for the pack size and then asks which of the four copy programs you wish to use:

FULL COPY
gives a one for one copy of the pack you are copying from.

MOVE UTILITY FILES
moves only the utility files of the disk from one pack to another. This includes width tables, kern tables, track tables, dictionaries and global formats.

CLEAN WORK AREA
will clean the working area of the system which includes composed jobs, jobs waiting for the printer and jobs that have been read in from paper tape and have been placed in the Default Queue.

MOVE PROGRAM FILE
moves only the CCI programs from one pack to another.

You type in the selection number followed by RETURN and the system instructs you where to place the source and destination packs.

The copying of a 25 megabyte pack will take approximately 6 minutes and a 50 megabyte pack approximately 12 minutes. When the copy is completed, the program asks whether you need to copy anything further. If not, restart the system with RESET/PROGRAM LOAD and sign-in as described above. If you want to make another copy, press P at the teletype (for the Nova 3 computer, press the CONTINUE switch on the front panel).

BACKUP PROCEDURE

We suggest that the copy program be used daily to create a backup of your working disk. The procedure for this is as follows:

1. At the end of a shift, the terminal operators should close all the terminals (by choosing number 5 for system maintenance, and then 2 for close terminals). When the computer has completed storing all jobs and the typesetters have finished running, a C will appear at the teletype.
2. Type COPY Return at the teletype. The copy program described on page A-3 prints out. Under Select Program choose number 3, CLEAN WORK AREA.
3. When the work area has been cleaned the following message will appear on the teletype:
   END OF PROGRAM. PRESS CONTINUE TO RESTART COPY.
   DO NOT PRESS CONTINUE at this point, however. Instead, switch the front of Drive 1 to Read Only and reboot the system. After entering the date and time, call for the COPY program again.
4. Now put the backup disk in Drive 2, and choose number 1, FULL COPY.
5. At the end of program message, turn off both drives and take the working disk out of Drive 1 and put it away. Take the backup disk from Drive 2 which is now identical to the Working Disk and put it in Drive 1. This is now your Working Disk and the one you put away is your Backup until the next time you copy.
6. Now turn on Drive 1. REMEMBER TO SWITCH THE FRONT OF THE DRIVE BACK TO READ/WRITE and then Reboot. Fill in the date and time and call up your composition program (eg. ACOMP) and you are ready to begin work. (If you are going to shut down the system at this point, you should leave the disk in its case on the top of Drive 1. It is a good idea to switch the drive back to READ/WRITE immediately, though, so that you don't forget later.

Note: If you forget to switch the front of the drive to READ/WRITE you will get a write error message at the teletype when you call for the composition program. The message will look something like this:

```
WTERR NOWRIT F77R000037 D0C0000H01S10 ST102024 P054144
FOR RETRY ENTER 'G':
```

It says: Write error, no write. Just switch the front of the drive to READ/WRITE and reboot again.

It is possible to use the COPY program to back up your archive disks as well as your working disks. To do this, use the same procedure, but remember that the archive disk doesn't have a COPY program on it. You must, therefore, call up the COPY program from your working disk. Then turn off Drive 1, take your working disk out and put in the archive disk you want to duplicate. Now put the disk that will be the archive backup in Drive 2 and do a FULL COPY. Be careful during this procedure, to wait for the blinking light on the drive to steady before turning on the second drive. There is a surge of power as a drive is coming up to speed, and turning both drives on at the same time can blow a fuse on the system.

TELETYPE MESSAGES

A number of system activities will result in automatic messages coming out on the teletype. These messages are explained below.

Composed Jobs

Jobs to be composed will usually be requested through the vdts, and when the composition of a particular job is complete and ready to send to the typesetter, a message will appear on the teletype. These messages indicate the composition number, job number, take, revision, and customer name, for example:

```
5 JOB 6789-0000-05 HOBBYHORSE INC
6 JOB 3241-0002-01 CONSOLIDATED DINERS
7 JOB 2345-0000-09 BAGELS UNLIMITED
```

For each composed job, the system automatically generates an internal composition number that is used for calling out the jobs to be typeset on-line, output to paper tape or transferred to mag tape. In the above example, the three jobs have been assigned the composition numbers 5, 6 and 7.

Composition Errors

Occasionally, a job to be composed contains markup errors of some kind. In these cases, the system rejects the composition request and outputs a message to the teletype indicating a composition error:

```
COMP ERROR: 8861-0001
COMP ERROR: 2365-0001
```

When one of the above jobs is called to the vdt in the edit mode, one or more error messages described in the Terminal Operator's Guide will be found.

Galleyize Error

If a job goes through automatic galleyizing and it contains mark-up errors or other situations which prohibit galleyization, an error message will be typed on the teletype:

GALLEY COMP: 1112-0000

The vdt operator can then call up the job in question and check for the error.

If, during galleyizing, a galley is found to exist in the sequence required by the incrementing galley numbers, a galley order error is output in the same format as a galley comp error.

In both instances, all galleys created thus far will be released and the original job remains intact.

Archive Jobs

If jobs are requested to be archived to paper tape from a vdt, then a teletype message will appear for each individual job that has been requested. The teletype message will appear as follows:

17 ARC C1203-0001-17 TINKERS

18 ARC 12135-0007-03 EVERS

19 ARC 34565-0023-06 CHANCE

The teletype message for archive jobs is the same as for composed jobs except that the word ARC is substituted for the word JOB.

Read and Write Errors

Whenever the system is unable to safely execute a procedure or job, a read or write error will appear in the following form:

RDERR STATUS F01R000453 D0C0012H03S00 ST002402 P03544
FOR RETRY ENTER 'G': **G** ret

The above read error has been encountered in the reading of a sector and the message indicates that the system tried to read the file 01 (F01), relative sector of that file 000453 (R000453), disk 0 (D0), cylinder 12 (C0012), head 3 (H03), sector 00 (S00). The status word (ST) for this error refers to the disk controller manual and finally the PO34544 (034544) indicates the program location at the time the system was trying to read the indicated sector.

Before the read error was printed, the system had made 10 unsuccessful atttempts to correctly read that particular sector; however, in most cases the entry of a G may correct the problem.

If successive entering of G's does not correct the problem, the task causing the malfunctioning disk operation can be discontinued by entering an X, thus releasing the other tasks in the system.

Therefore, if a read error occurs during the scrolling on one vdt, that vdt operation will be disabled, allowing the remaining tasks to be completed and the system closed down in an orderly manner.

The following are the files that may be encountered in association with error messages of the above nature:

F00 = Work area file
F01 = Utility area file
F02 = Directory area file
F03 = Job area file
F04 = Job area file
F14 = Disk archive file
F77 = Program area file

The following error messages may be encountered in conjunction with read or write errors:

READY
This error indicates that the disk drive is inactive. It may happen if the disk drive has not come up to speed or has not been turned on.

FILE
A message of this type indicates either a program or memory error. If the program has been operating for some period of time, it is most likely a memory failure that is generating the error. In this case, memory diagnostics should be run against the computer to check the memory. Error conditions in the memory may cause unpredicted damage to files if continued work is undertaken.

SECTOR
This message indicates that the selected sector is invalid for this type of file.

IDENT
On each disk sector an identification block exists that gets checked whenever a sector is read or written. This error indicates that the ID block on the disk does not agree with the controller's request. Normally the disk heads have been moved to the wrong position or the data on the disk pack has been damaged.

STATUS
This message indicates a hardware malfunction normally associated with the disk and reports the status word from the disk controller.

CKSUM
This error indicates that the check sum computed by the controller on a read does not agree with the check sum that the controller wrote initially on the disk. This type of error normally is recoverable by entering G a number of times.

NOWRIT
This message indicates that you are attempting to write to a disk with the "Read Only" switch set or that you are trying to write to a mag tape with the write protect ring on the tape.

DKFULL
This indicates that the file pointed to by the error message has been filled or a break of the free sector chain has occurred and caused a fake disk full.

TELETYPE CONTROL COMMANDS

As a means of communicating with the computer system, a number of control commands are available to the computer operator. As a general procedure all control codes are accessed by pressing the CONTROL (CTRL) key and simultaneously typing the appropriate letter for the control command.

CTRL A—Abort Operation

If you are currently sending jobs to an on-line typesetter or punch, you can abort this operation by typing in CTRL A. The teletype will then reply with:

ABORT: **1** ret

You type in the device number of the on-line typesetter or, if a Punch is to be aborted, type P followed by RETURN.

CTRL C—Compose Jobs

You have the ability to compose jobs right from the teletype by typing CTRL C. The following dialog will occur:

COMPOSE JOBS
* **1234** ret
* **2345** ret
* **378917** ret INVALID
* **37897** ret
* *

The teletype will then indicate composed jobs in the same manner as if the jobs were composed from a vdt.

CTRL D—Sector Count

The software is designed to partition the disk into separate software-protected disk files used for specific purposes. A CTRL D will give you a print out of the available amount of sectors in each of these files:

WRK 007328 UTL 002664 DIR 007278 JOB 070023

The message indicates the following number of sectors are available for each file:

WORK AREA: 7328
This is the area where all jobs that are being composed are stored away and where jobs that are read in from the Paper Tape Reader into the Default Queue will be kept. Also, this area is used when a job is brought up in H&J on the screen as well as when a job is sent through galleyizing.

If you get a DISK FULL in the WORK AREA, all you do is call up the COPY program and request item 3—CLEAN WORK AREA—and the system will restore and relink clean sectors in the work area.

UTILITY AREA: 2664
This area is being utilized to store away Global Formats, width tables, kern charts and exception dictionary words.

DIRECTORY AREA: 7278
This area is utilized for maintaining the Master Directory.

JOB AREA: 70023
This area is being utilized for storage of jobs only.

CTRL E–On-Line Output

The outputting of composed jobs is directed from the teletype to different output devices. The devices available depend on the hardware configuration of the particular system. The following devices are available:

1, 2, 3 or 4
meaning on-line typesetters one through four.

P
meaning Paper Tape Punch

M
meaning Mag Tape Drive.

L
indicating output of composed jobs to a line printer. This output is in the form of typesetter code, not to be used for proofreading purposes. This feature is only for the convenience of the system manager as a diagnostic tool.

The following example of an on-line dialog with the system indicates communication with typesetter device number 1. However, it is applicable to all of the above devices:

```
DEV: 1 ret
ENTER JOB NUMBER
* 8 ret
* 9 ret
* *
OUTPUT COMPLETE FOR DEVICE 1
```

After having typed in the CTRL E, the system will ask what device you are requesting. You then type in your selection followed by a RETURN. The system then asks for job numbers for each composed job. Enter these numbers followed by RETURN. If you are sending several jobs in sequence you can type the first and last numbers separated by a hyphen (eg. 4-6). When you have finished listing the jobs to be transmitted, type * followed by RETURN.

In the cases of jobs sent on-line to the typesetter or jobs punched on the paper tape punch, these jobs are not automatically released from the WORK AREA of the disk after they are sent to the typesetter or punch. The reason is that in certain cases retypesetting or repunching of jobs may be necessary due to typesetter malfunction or the need for additional repros. Therefore, when the typeset jobs have been released from production and the composed versions on disk are no longer needed, they may be killed by using the CTRL Q capability to kill all jobs sent through the typesetter.The KILL function can also be performed from the vdts by calling up the PUNCH QUEUE and performing the KILL procedure.

Please note that this does not in any way affect the job as it exists in the JOB AREA on the disk. It simply deletes the working composed version of the job.

CTRL K–Kill Punch

If a job has been sent to the punch by mistake, a CTRL K will terminate the punching of the current job. This feature is available with off-line system only. On-line systems utilize the CTRL A–Abort function.

CTRL L–Kill Line Printer

If a job has been sent to the printer by mistake, a CTRL L will terminate the listing of the current job.

CTRL P–Suspend Punch

If the punch is punching a job and you are running out of paper tape, the punch can be halted by a CTRL P, giving the following message:

PUNCH SUSPENDED

CTRL Q—Print Compose Queue

As jobs are composed in the system, the indication of the completion of the compose is given on the teletype as shown in the following example:

```
5 JOB 6789-0000-05 HOBBYHORSE INC
    A1-HL A6-SKC
6 JOB 3241-0002-01 CONSOLIDATED DINERS
    B3-HLC C5-NP
7 JOB 2345-0000-09 BAGELS UNLIMITED
    B1-HLI B3-UA
```

These reports are generated whenever a job is composed. If you want a single listing of all ready to be typeset jobs, a CTRL Q will process the typesetter queue. After having typed in the CTRL Q, the system will offer three choices.

```
CONTROL Q
PROCESS TYPESETTER QUEUE:
  1 = LIST ALL
  2 = LIST JOBS NOT SET
  3 = KILL JOBS SET
      SELECTION NO: 1
```

prints out the entire Compose Queue in numerical order along with the fonts to be used (in this example a VIP Compose Queue has been used). Wherever a job has been set, a T will appear next to it (job 6 has been sent to the typesetter in this example).

```
5 JOB 6789-0000-05 HOBBYHORSE INC
    A1-HL A6-SKC
6 JOB 3241-0002-01 CONSOLIDATED DINERS      T
    B3-HLC C5-NP
7 JOB 2345-0000-09 BAGELS UNLIMITED
    B1-HLI B3-UA
```

Choosing number 2 will list only the jobs that have not yet been sent to the typesetter. Number 3 kills all jobs in the queue which have been sent to the typesetter.

CTRL R—Release Punch

When the punch has been suspended with a CTRL P, it can be released with a CTRL R and the following message will result:

```
PUNCH RELEASED
```

CTRL S—Start OCR reader

For systems equipped with on-line OCR input, this command opens the OCR port and accepts data.

CTRL T—Print Time

By typing CTRL T, the following message may appear on the teletype:

```
DATE 07/04/76 TIME 09/18/10
```

This function gives you the date and time according to the system.

CTRL X—Start the Paper Tape Reader

When you want to read jobs in through the Paper Tape Reader, place the tape in the reader and type CTRL X. The system will file the job in the Master Queue if it contains proper header information. If not, it will type out the header information it has received and store the job in the Default Queue.

CTRL W—Disk Pack Archive

You can archive a job selectively from the Master Pack to an Archive Pack or restore a job from Archive to Master while the system is handling all other composition functions.

The Archive Pack must be initialized as described in the Disk Pack Initialization procedure and placed in drive 2 of the system. During a disk archive, the following dialog occurs:

```
DISK ARCHIVE
MOUNT PACK ON DRIVE 2
     WHEN READY REPLY 'G': G ret
ARC-1 012656                    47956
IS IT ARCHIVE OR RESTORE (A/R)? A ret
ENTER JOB NUMBER
* C1023 ret
* C102. ret
* * ret
     PURGE JOBS? (YES/NO)?: YES ret
END ARCHIVE
```

The system asks an operator whether he wants to archive—send a job from Master to Archive Packs—or whether he wants to restore—bring a job from Archive to Master Pack.

The archiving can take place in different modes. You can choose to archive just one job at a time by typing in the individual job numbers. Or you can transfer all jobs beginning with certain numbers in a block move by typing the first digit and then a period. To move all jobs beginning with C, for example, simply reply C after the asterisk. (Similarly, all jobs beginning with C102 are block moved by typing C102. after the asterisk.)

After the initial archive, the job now exists both on the Archive and Master Disks. The program then asks whether you want to purge the jobs from the source disk. You must type either YES or NO to indicate your preference.

CTRL Y—Mag Tape Archive

The tape archive is performed by typing CTRL Y. The procedure is identical to the disk archive, and therefore is described under the CTRL W procedure.

DEBUG (Control Z)

From time to time, it may be necessary to make patches to your program or changes to information on your disk. This is done through the Control Z facility at the teletype. Whenever such a need arises, however, you should contact a CCI technical assistant who will guide you through this process.

It cannot be emphasized enough that you should NEVER attempt to enter DEBUG without calling CCI first. CCI will not assume responsibility for any disks that have been altered or edited without our knowledge.

In general, the kinds of situations you may encounter in DEBUG are the following:

1. Control Z

Takes you into DEBUG. It prints out four sets of numbers across one line at the teletype.

2. OEDIT

a. Getting into OEDIT

Immediately after typing Control Z and getting the 4 sets of numbers described above, type O (the letter O, not zero). The teletype prints EDIT and asks for a name. Type the name of the program you are editing (eg. VCOMP) and a Return.

b. Depositing New Information in a Location

Type the location number followed by a slash. The teletype prints out a six-digit number (the contents of that location). Verify to see that the contents match the information given you by the CCI technician and then type in the new number followed by a return.

c. Verify Changes Made

In all cases when you have been asked to change the information in a certain location, you should check it by retyping the location and a slash. When you see that the number is correct, just type return.

d. Write the New Changes Back to Disk (HOME)

In order to change the information in a certain location, you have brought that information off the disk and into the memory of the computer. After you have made a change to a certain location, you must write that change back to the disk. Sometimes you will only need to write back a single location to the disk. After you have verified that the new information has been properly entered into the location desired (see 2c), type H (the teletype prints OME) followed by a return.

DEBUG (Control Z) Continued

3. Changing a Sector

a. Set Z to n.

Sometimes the first thing you will be asked to do is to set Z to some number. You do this by typing Z. A number prints out. You then type in the number you have been given followed by a return. To verify that the Z is now set to your new number, hit Z again and upon verification, return.

b. Printing Out a Sector (In Word Form)

You may be asked to print out a sector of information. You do this by typing the number of the sector you want followed by Z. To stop the printout, hit a space.

d. Printing Out a Sector (In Byte Form)

You must set X to 1. To do this you type X. Six zeros are printed. Type 1, followed by a return. Then follow steps to print out a sector as outlined above. The sector will appear in byte form (that is, three digits—slash—three more digits).

d. Write A Complete Sector Back to Disk

When you have verified that all the information is correct, you must write the new information back to the disk. You do this by typing the sector number followed by a W.

4. Reboot

You will usually be asked to reboot the system at the end of DEBUG. You simply go to the front panel of the computer and press STOP/RESET/PROGRAM LOAD. Then fill in the date and time at the teletype.

HOUSEKEEPING PROCEDURES

You should create the following disk packs for your shop: 1. A Master Program disk pack, on which you keep a copy of your program only. 2. A Working pack. 3. A backup of your working pack. Once a day, or at the end of each shift, you will copy your working pack onto the backup, and then rotate the packs so that the backup becomes the working pack for the next shift. 4. An archive pack. 5. A backup of the archive pack. (A complete copy of the archive disk pack).

Refreshing the program

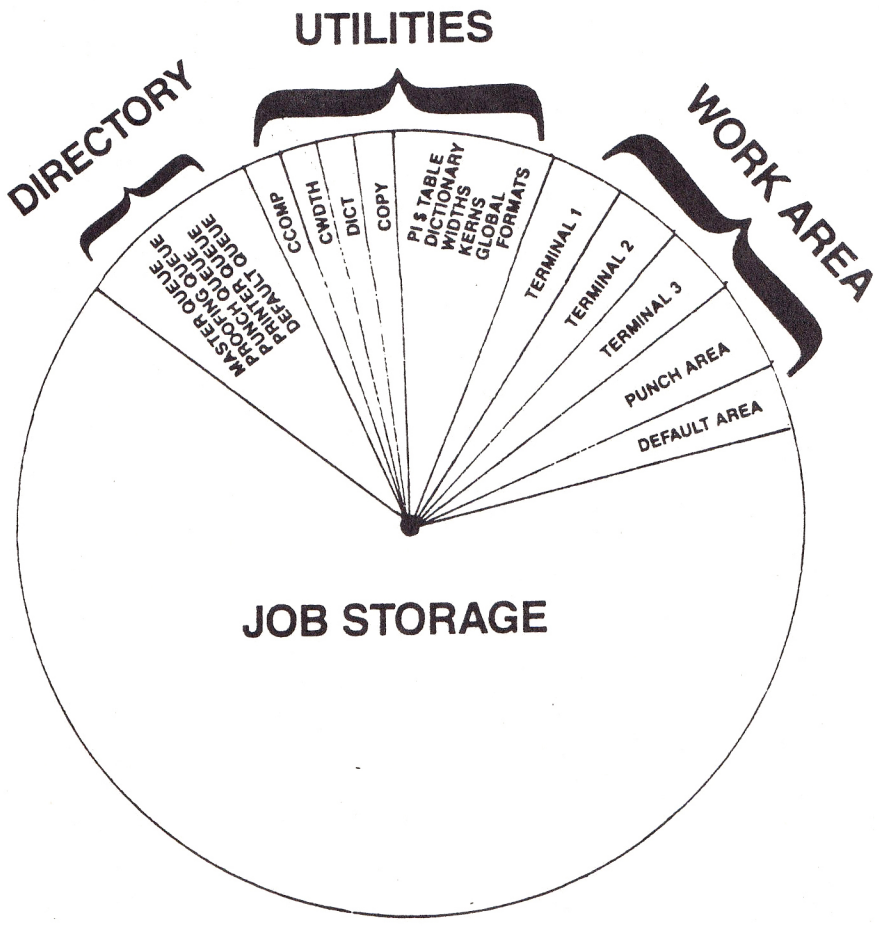
It is a good practice to refresh your program about once a month. To do this, place your master program disk pack in drive 1, switch the front of the drive to Read Only, and call up the copy program. Select Number 2 in the copy program (Move Utility Files), and put your working disk pack in Drive 2. Type G, Return and wait for the end of program message. Don't forget to switch Drive 1 back to Read/Write before beginning to work again.

Repacking the disk pack

This procedure should be done about every six months to keep your work in good order on the pack, and to speed up your production. To repack the disk, you will need to create a temporary archive pack. The steps are as follows:

1. DPIT a disk pack to be used as a temporary archive pack. (See page A-4 for instructions on Disk Pack Initialization).
2. Archive all jobs off your working pack onto the temporary archive disk you have just created. The fastest way to do this is to send off all jobs beginning with the number 1 by typing 1 followed by a period, then all the number 2's etc. When you have finished 1-0, send A. to Z. the same way.
3. Now DPIT the working disk. This is an important step, since it cleans the disk, and re-establishes the sectors.
4. Do a Utilities only copy from your master program disk pack to the newly DPIT'ted working pack. (See section on refreshing your program for a detailed description of this step.)
5. Now put the working pack in Drive 1, the temporary archive pack in Drive 2, and restore all the jobs onto the working disk pack. The jobs will be returned to the pack in perfect sequence, which should speed up your production and give you more free space for storage.

THE CCI DISK PACK



The above representation illustrates the way in which the CCI disk pack is structured. CCI uses the DPIT program (described on page A-1) to transform a blank disk pack into one which is divided into the areas shown.

1. The UTILITY AREA of the disk contains
   1) the CCI programs which were originally entered onto the disk from paper tape, and
   2) width tables, kern values, dictionary words and global formats entered by your company.
2. The MASTER STORAGE AREA is where all the jobs on the disk reside.
3. The DIRECTORY is a listing of all the jobs on the disk.
4. The WORK AREA is divided into:
   1. A PUNCH AREA, where jobs have been composed and written into the code necessary for the typesetter. Note that this typesetter version of the job is not stored permanently on the disk, but is held in the WORK AREA until the job has been run through the typesetter.
   2. A DEFAULT AREA, where jobs being read into the system from paper tape, mag tape, or telecommunications devices, are held temporarily until they have been assigned a proper job number for filing into the MASTER QUEUE.
   3. A SCRATCH AREA for each of the terminals. When an operator selects a job for editing, a copy of the job is taken from the Master Queue and written into this portion of the WORK AREA. The original job remains in the MASTER STORAGE AREA until the operator choses to replace it, by sending the updated version from the WORK AREA to COMPOSE, to the PRINTER or back into JOB STORAGE.

A sector count of the remaining sectors in each of the areas described above can be obtained by typing Control D at the teletype. A more detailed explanation of this procedure can be found on Page A-7.

PAGEBUILDER

PageBuilder is an add-on program module that provides the following additions to the CCI-400 standard composition program: 1) Automatic pagebreaks, 2) Vertical justification, 3) Nested formats, 4)Snapshot format display, 5) an Electronic Monitor, and 6) On-line handler enhancements. The codes and operations necessary to use PageBuilder are detailed in this supplement to the CCI-400 training manual. Before attempting to understand the specific codes used in PageBuilder, however, a general understanding of the program is necessary. Therefore, an overview of the Paging software is outlined below:

Pagebreaks

In general, pagebreaks are handled in the following way: The operator uses the Galley Depth (GDa,b,c,d) command to specify the minimum and maximum depth as well as widow and orphan control parameters. The chapter is keyed in as a unit following this command. Vertical spacebands of a preferred number of points (VBn) can be entered where desired. A Vertical Expansion (VEx,y,z) command controls the percentage of expansion and contraction allowed on the vertical spacebands and also the maximum amount of leading for carding. A block of copy within a page can be vertically justified to a specific depth using (VJx) and End Justify (EJ) commands at the beginning and end of the block. (VJ) and (EJ) can also be used in formats to create multiple column justification on a page. Start Paragraph (SP) and End Paragraph (EP) are used within the text to show possible galley breakpoints. Disallow Break (DB) and Allow Break (AB) are also used to define unbreakable copy blocks such as tables and subheads. Save Status (SS) and Restore Status (RS) allow the system to insert galley heads at any point in the text without losing the parameters in effect at the time of the break. A number counter can be loaded with a Begin Number command (BN), and it will be incremented automatically and inserted wherever a Print Number (PN) command is found. When the entire chapter has been entered, the operator uses the Galleyize "G" option under SELECT JOB, to break the job into pages. "G" sends the job through H&J, building a "Chapter Map", which flags end of lines and determines how the pages will be broken. At any time, once the chapter map has been built, the system can re-adjust the pages, simply by another Galleyize "G" request. The Galleyize request can be entered through the SELECT JOB menu, or it can be entered through the Close Story menu, when the job is stored.

Vertical Justification

To vertically justify a page, the Galley Define command (GD) must have a 0 as its first parameter. The second parameter is the exact depth of the page desired. When a job with 0 as its first galley depth parameter is put through galleyization, the vertical spacebands will expand or contract and carding will take place to fit the page to the exact depth desired.

Formats

Expanded format capabilities are another feature of the PageBuilder software module. Both Global formats and Job Formats can be cross-referenced in a User Command Table, accessed through the System Maintenance Menu. Once the table has been built, any % followed by a two-character mnemonic in the text will cause the system to access the corresponding format. At any point on any page, hitting the Format key and the mnemonic following a percent (or the format number) will bring the format up to the screen, temporarily storing the running text in memory. When the operator has finished referring to the format, hitting TCL (Terminal Control) restores the text to the screen with the cursor in its prior position.

Another enhancement is the ability to nest up to five levels of formats. This means that the call for a new format does not automatically cancel a format currently in effect. It allows the operator to make use of the delay lines and delay measure commands to set up multiple column pages while maintaining the ability to go in and out of other formats in the text. It also means that where a format has several parts, the operator can jump from any place in one format to a second or third level of another one. Job formats, under PageBuilder, have been expanded to allow up to 500 formats per job.

PAGEBUILDER (continued)

On-line Handler

Several new on-line handler enhancements have been added. Control Q now permits the operator of the output device to get a list of jobs that have not been sent to the typesetter. All jobs that have been set can be killed from the punch queue with a single command. The output operator can also send a series of jobs to the typesetter by typing 1-5, for example, to send jobs 1 through 5 to the typesetter.

Utility Handler

The copy program has been improved to allow the transfer of programs only or of utility files only, from one disk to another.

Electronic Monitor

Once a job has been chapterized, an Electronic Monitor checks all revisions to it. Any lines that are changed from the original are flagged on output. The CORRECTION key on the terminal allows the operator to change the way the lines are flagged in order to differentiate between customer and house alterations. When the operator hits the CORR key, the screen flashes an H, and all corrections made in that mode will be flagged with an H in the margin. When the operator hits the key again, the system returns to a normal state where lines of text that have changed are marked with a C. If the operator wants to output only the paragraphs of text that have changed, an "S" typed in "Compose Job" in the Close Story Menu or under the Select Job option, will compose only the altered lines. If the operator wants to compose a paragraph that has not been altered, hitting the select paragraph key anywhere within that paragraph will cause that paragraph to be set. The code (XX) that was inserted by the operator will be dropped by the system, so that the job is stored in its original form.

CCI-400 terminal operator's guide

INTRODUCTION

The CCI 400 System was designed and developed for the commercial printer and typographer. It offers operation in a completely multi-tasking environment which allows for multi-station input, composition hyphenation and justification, editing and text manipulation from multiple video display terminals, and output to on-line or off-line devices; all in conjunction with a spectrum of capabilities currently available in the standard composition system.

Jobs entered into the system are handled by the following processing sub-systems which allow for the simultaneity of all operations to continue.

I. Input Processor: A job enters the system, from either on-line or off-line means, and is translated from its external code structure to a universal code structure. The incoming job is checked for the proper identification header, brought into the system, and spooled onto disk for storage.

II. VDT Operating System: The Video Display Terminal operator interacts with the vdt operating system to initiate tasks for editing or entry of any job currently on disk. The tasks available to the operator are displayed on the screen. The operator will then make the appropriate choice and the computer will respond with a display on the screen reflecting the next logical step to be performed by the operator.

Some of the basic requests that can be chosen are:

a. MASTER QUEUE—All jobs currently resident on disk will be displayed in sequence by their job number and galley number. It will also show the revision level, name, date and time of entry, and the expected date of expiration.

b. PROOFING QUEUE—All jobs that currently have been assigned to this queue are to be proofed or edited by selection of the vdt operator. As jobs are composed they are automatically removed from the Proof Queue.

c. COMPOSITION QUEUE—All jobs that have been requested for composition are listed in this queue. Since the system automatically will compose any of the entries in this queue, this list shows those jobs which are waiting to be composed.

d. PUNCH QUEUE—All jobs that are due to be output to typesetting devices, either on-line or via paper tape punch, are listed in this queue. Like the Composition Queue, the Punch Queue is a "waiting" queue from which each job ID will be dropped as soon as the job has been output.

e. PRINTER QUEUE—All jobs that are directed to be output on a line printer. This also is a "waiting" queue from which each job ID will be dropped as soon as the job has been output.

f. DEFAULT QUEUE—All jobs that enter the system without job identification or with an identification error will be placed in this queue. The queue is used primarily for on-line OCR scanners, or paper tape input, to capture the data on disk so that job number assignments and mark-up coding can be entered easily and quickly via the vdts. (For details of the input header coding via OCR or paper tape entry, please refer to the JOB COMMAND section of the CCI 400 Composition Mark Up Guide.)

III. Output Processor: Those jobs that have been requested to be composed and are residing in the "Compose Queue" are automatically handled by the output processor. The data is retrieved from disk, passed through H and J, converted to the appropriate structure required for the output device, then spooled to the requested device.

OPERATOR SIGN-ON

1. If the cursor does not appear at the upper left hand corner of the screen, turn on the power with the switch located behind the CRT.
2. As soon as the tube lights up press the "TCL" (Terminal Control) key. This causes a display of the OPERATOR SIGN ON frame in which the operator enters either initials or operator number, according to the requirements of the installation. After keying the operator identification, the NEXT key is used to enter this information into the system.
3. The operator now has a choice of the following main menu options:

CCI-400 COMPOSITION SYSTEM - VIP

1. DISPLAY QUEUES
2. SELECT JOB
3. JOB ENTRY
4. PROCESS FORMATS
5. SYSTEM MAINTENANCE

ENTER SELECTION NO.

4. If the operator knows the number of a job previously entered into the system, or the number of a new job to be entered, number 2 or 3, respectively, should be entered, followed by the NEXT key.
5. Otherwise the figure 1 should be entered to select Display Queues, which is the real-time work-in-progress monitor. This calls for a selection among the following:

MASTER QUEUE
PROOFING QUEUE
COMPOSE QUEUE
PUNCH QUEUE
PRINTER QUEUE
DEFAULT QUEUE
EXPIRED LISTS

MASTER QUEUE

Selection of the MASTER QUEUE with the cursor, NEXT brings up the following display:

VIP MASTER QUEUE

SELECTION: L—LIST C—COMPOSE
H—HOLD X—EXPIRE
A—ARCHIVE

JOB	JOB NAME	EXPIR	TAKES
A1234	WESTERN FARMS	12APR	2
31234	GREEN FRIARS	19MAY	1
97866	BLUE HORIZON	15APR	23

The above display of the MASTER QUEUE indicates that by positioning the cursor to the left of the selected job and inserting the appropriate letter L, C, H, X, or A and a NEXT the job can be processed as follows:

L—causes it to be LISTED on the Line Printer.
C—sends the job to the COMPOSE QUEUE to be output on the typesetter.
H—adds thirty days to the expiration date to hold a job.
X—causes the job to be given the current date as its expiration date.
A—sends the job in CCI code out to paper tape for ARCHIVE.

The first job in the above MASTER QUEUE is A1234 for Western Farms. It is due to expire on the twelfth of April and has 2 takes. To examine those two takes, we place the cursor next to the job number and strike the NEXT key. The following queue appears:

VIP MASTER QUEUE

SELECTION: E—EDIT P—PROOF
L—LIST C—COMPOSE
H—HOLD X—EXPIRE
K—KILL A—ARCHIVE

A1234	EXPIR	QUEUE	JOB NAME
0001-07	12APR		WESTERN FARMS
9999-02	12MAY		WESTERN FARMS FMTS

In the Detailed Master Queue above, job number A1234 has two takes: A1234-1 and A1234-9999. The first take has been revised 7 times; the second take -9999 has been subject to two revisions. Take -9999 holds all the formats for A1234, so that future takes to the same job can use those same formats with no need to rekeyboard them.

The menu at upper right indicates that from this queue we may EDIT or PROOF the job; the first selection will bring the job to the screen hyphenated and justified, the second will bring it to the screen unjustified. The other functions offered in the Intermediate Master Queue are also available.

PROOFING QUEUE

Positioning the cursor at the second line of the DISPLAY QUEUES menu brings up the PROOFING QUEUE. This queue lists all jobs found with composition errors in them, jobs brought in from paper tape and waiting for operator review, or jobs placed in the queue by the vdt operator. The PROOFING QUEUE acts as a hold basket for jobs in production.

COMPOSITION QUEUE

The COMPOSE QUEUE lists all jobs waiting for composition and output to typesetters or the line printer. In normal operation no jobs are in the COMPOSE QUEUE, since they are composed and output quickly by the system.

PUNCH and PRINTER QUEUES

The PUNCH QUEUE is a list of all jobs ready for output to the typesetters. The PUNCH QUEUE may be called to the screen to delete jobs no longer required in production. The PRINTER QUEUE is the list of all jobs ready for the line printer.

DEFAULT QUEUE

The DEFAULT QUEUE lists all jobs input from the paper tape reader, ocr or on-line floppy disk reader which do not contain a valid job command line. DEFAULT jobs may be called to the vdt screen for operator review, corrected, assigned a proper job number and moved into normal production.

EXPIRED LIST

The EXPIRED LIST is the list of all jobs ready to be purged from the system based on the current date and time. To purge these jobs, enter the SYSTEM MAINTENANCE menu and indicate the selection PURGE EXPIRED FILES. This selection is software protected and should only be used by the System Manager.

SELECTION OF A JOB

After the operator has signed on, the NEXT key is used to display the first list of options from which a previously entered job may be selected by keying in the number 2, for SELECT JOB, followed by a NEXT.

The job number is then keyed in, followed by a NEXT. At this point the operator decides whether to display the job in hyphenated-justified format by selecting an "E" for EDIT mode, or a "P" for the unjustified, or PROOFING mode, a "C" for COMPOSE to output the job on the punch or the on-line phototypesetter, a "S" to COMPOSE selected paragraphs only for last minute patches, a "Y" to COMPOSE a job with priority over the other jobs in the queue, a "W" to COMPOSE selected paragraphs with priority over other jobs in the queue, an "L" for LIST which will cause output on the line printer, an "M" to give a measured H&J output on the line printer, or an "A" for ARCHIVE, causing output on the punch in internal coding format for preservation of the job for re-entry into the system at a later date. Whichever letter is selected, it must be followed by a NEXT for execution.

A job may be selected from the MASTER QUEUE and the PROOFING QUEUE in either PROOF or EDIT mode. A job in the DEFAULT QUEUE can be selected in the PROOF mode only, or it can be killed.

Several new options available on the SELECT JOB menu are:

D DUPLICATE. The operator types the number of the job to be copied and selects D. The system asks for the number of the new job. The operator types the new number, then Next. When the system has finished copying the job into the new file, the cursor returns for another job number.

Q QUEUE. Selecting Q allows the operator to enter the Master Queue at any point desired. When using "Q" the job number must contain a period as its last character. Typing 12., NEXT, then Q, NEXT, for example, brings up all the jobs in the Master Queue beginning with the numbers 12. To get the queue of all the chapters of a specific job, type the job number followed by a hyphen followed by a period.

T RENUMBER. The job number is typed and if T is selected, the system will ask for a new number. The new number is keyed, followed by Next, and the cursor returns to the SELECT JOB position for another selection. The old number no longer exists.

ENTRY OF A NEW JOB

After the operator has signed on, the NEXT key is used to display the frame with the first list of options. By keying a number 3 followed by a NEXT, for JOB ENTRY, a frame will be displayed requesting the number and name to be assigned to the new job. The job number is keyed in, followed by a NEXT, then the name, also followed by a NEXT. The BEGIN ENTRY option is confirmed by another depression of the NEXT key.

If the operator tries to enter a job number which has already been assigned to another job, the system will refuse to accept the number by deleting it from the screen as soon as it is followed by the NEXT.

PROCESS FORMATS

Global Formats–those used system-wide–may be entered and revised through the system's vdts with the PROCESS FORMATS selection. Globals have all the characteristics of standard job formats, but are stored once and hold true for every job. Refer to page J-6 of the Composition Markup Guide for and explanation of the use of Global Formats.

SELECT JOB (Paging)

There are several options available on the SELECT JOB menu for the paging module. They are:

G GALLEYIZE. This divides a chapter (or take) into galleys. The size of these galleys is specified in the <GD> command at the top of the first galley or, if no command is specified, by the system default. A job can also be galleyized through the Close Story menu. To do this, the operator positions the cursor at STORE IN MASTER FILE and types G, NEXT. The chapter map will be built and the job broken into galleys as it is stored.

N NEW CHAPTER. This is similar to "G", but it is used less frequently. When a job is being galleyized for the first time, "G" is used to create the Chapter Map. The Electronic Monitor then keeps track of changes made to the job, and re-hyphenates and justifies the galleys that require it as they are being stored. Any time the operator needs to re-adjust the page breaks, another "G" uses the Chapter Map to rebreak the pages. In the case where extensive changes have been made to a chapter, however, "N" allows the operator to clear the Chapter Map, and start the process of pagination from scratch. This speeds up pagination only in cases where a great deal of the job would have to be re-hyphenated and justified, and where the existing Chapter Map's information would have to be greatly altered.

Z CLEAR THE ELECTRONIC MONITOR MARKS. The Electronic Monitor marks for the job specified will be cleared immediately. Normally they are cleared only after a Compose. (Selective Compose does not clear the Electronic Monitor marks.)

D DUPLICATE. The operator types the number of the job to be copied and selects D. The system asks for the number of the new job. The operator types the new number, then Next. When the system has finished copying the job into the new file, the cursor returns for another job number.

Note that when duplicating a galleyized job, the new job created will be restored to its original version before galleyization. In other words, the Chapter Map does not transfer to the new file, and if desired, the new job must be galleyized again, using "G" to build a new Chapter Map.

SYSTEM MAINTENANCE

The SYSTEM MAINTENANCE vdt display provides for the following three options:

1. PURGE EXPIRED FILES—enables the operator to remove jobs that no longer are needed or wanted on the disk. The effect is to remove the take ID from all queue lists, and to remove the jobs from the disk.

   By selection of the QUEUE LIST, then the EXPIRED FILES, the operator can examine all takes that have been added to the expired list. It is still possible to revise the expiration dates by selecting "R" and entering the desired date (in numerics of month and day) for those takes. If no specific expiration date is assigned to a job it will be understood to be the date of original entry of the job into the system, which will cause it to be added to the expired list the following day.

   If any takes are to be purged, and the expiration date has not arrived, these jobs can be called to the screen, then TCL for STORY CLOSE and the expiration date changed to any date from the first day of the previous month to the day prior to the current date. This will cause them to be added to the EXPIRED LIST. If an expiration date is given prior to the first day of the previous month, it will be assumed to be in the coming year.

   After changing the expiration of the take(s) the operator can confirm the takes selected for expiration by examining the EXPIRED LISTS of the DISPLAY QUEUES. If the list is correct, the operator can then select SYSTEM MAINTENANCE from the first VDT frame, then PURGE EXPIRED FILES, followed by QUAD LEFT. For confirmation and execution of the action, the HOME key is then pressed. A PURGING IN PROGRESS message will then be displayed on all VDTs.

2. TERMINAL CLOSE is the second choice in the SYSTEM MAINTENANCE list. This enables reversion of control of the system to the operating system so that a different program may be called in from the disk, such as the Dictionary or Width Table utility programs. If all takes are now dormant, the system console will print a "C" and another program can be requested.

3. NEW OPERATOR is the third selection for SYSTEM MAINTENANCE. It is used to enable one operator to sign off and another to sign on. Whenever an operator leaves the terminal, it is good practice to call forth the NEW OPERATOR display to minimize incorrect operator identification on jobs.

4. USER COMMAND TABLE is selection number 4 on the SYSTEM MAINTENANCE menu. This table cross references Global Formats and Job Related Formats to a two-character mnemonic. When the mnemonic is used immediately following a % sign, the system looks at the USER COMMAND TABLE to find the corresponding format and inserts it in the text. To enter new mnemonic codes in the table, find the next available space and type the two-digit mnemonic desired, followed by NEXT, followed by the format to which it corresponds. Global formats are referred to by placing a G after the number desired. Type NEXT and the code is entered. When the table is stored, the mnemonic codes are automatically sorted into alphabetical order. To erase a code from the table, type * NEXT in its place.

CLOSE STORY OPTIONS

After entering or editing a job on the VDT the TCL key brings the CLOSE STORY menu to the screen for disposition of the job as follows:

CLOSE STORY

REVISED JOB NO.:
REVISED NAME:
EXPIRATION DATE:
SET IN LIST QUE:
SET IN PROOF QUE:
SET IN COMPOSE QUE:
STORE IN MASTER FILE ELAPSED TIME: 01
IGNORE:

REVISED JOB NO.—When the cursor is in this position the job can be stored with a different number by entering the new number (up to 5 alphanumerics) followed by NEXT. This will not affect the job in the Master File under the original job number. If the original job is to be updated (replaced) by the work currently being stored the number should not be changed and this field can be skipped by moving the cursor down to the next line.

REVISED NAME—The revised name of an existing job or the name of a new job can be entered here followed by NEXT.

EXPIRATION DATE—The system automatically assigns the date of entry of a job as the expiration date. If the job is to be retained longer than that, the projected expiration date may be entered here as follows: 5-20-77 for May 20, 1977 followed by NEXT.

If the job is to be retained indefinitely, an asterisk followed by NEXT may be entered here and the job will not be purged unless the expiration date is again revised.

SET IN LIST QUEUE—If the system includes a line printer, the cursor is placed here followed by NEXT and hard copy of the job will be produced on the line printer. (It is printed out exactly as it would appear on the screen in hyphenated and justified format.)

SET IN COMPOSE QUEUE—If the job is ready for typesetting the cursor is positioned here followed by NEXT and the job goes through hyphenation and justification and placed in the PUNCH QUEUE for output to the on-line typesetter(s) or punch. If only a punch is on line to the system it will be activated immediately.

If the system includes on-line typesetters, the system operator will assign the jobs in the PUNCH QUEUE to the appropriate punch or typesetting device.

SET IN PROOF QUEUE—If the job is to be stored with an indication that further proofing is required, the cursor may be positioned here followed by NEXT. (The PROOF QUEUE may be brought up on any VDT screen for job selection.)

STORE IN MASTER FILE—A new job entry or a revision of an existing job may be stored by placing the cursor here followed by NEXT.

NOTE: Each job placed in LIST, COMPOSE or PROOF QUEUES is automatically stored in the MASTER FILE.

IGNORE—If the contents of the job currently in the work area of the terminal are not to be entered into the Master File, the cursor placed here followed by NEXT will leave the master file unchanged and the work area of the terminal will be cleared.

ELAPSED TIME—The length of time the current job has been on the screen from the time it was called up (or entered) is displayed at the lower right hand corner of the screen.

THE DICTIONARY PROGRAM

This program must be called up on the Teletype as "DICT" and the first vdt frame displays:

1. ENGLISH DICTIONARY PROGRAM
2. SECONDARY DICTIONARY PROGRAM
3. TERMINATE PROGRAM

The **ENGLISH DICTIONARY** is the first selection in the Dictionary Program which causes a display of the following options:

1. PROCESS ENGLISH DICTIONARY
2. PUNCH ENGLISH DICTIONARY
3. LOAD ENGLISH DICTIONARY

1. PROCESS ENGLISH DICTIONARY presents a display for testing a word for its current computer hyphenation points (however generated, from logic, suffix or dictionary); for deleting a word; and for storing a word. Note: During dictionary processing, all inactive vdts will display the following message: DICTIONARY UPDATING NOW IN PROGRESS.

   Opposite ENTRY: the operator keys in the word to be processed. If the intention is to store the word it is keyed in with all desired hyphen locations, followed by a NEXT. Opposite COMPUTER is displayed the computer's current hyphenation locations (or absence of them). If they are identical to the operator's entry it could mean that the hyphenation is accomplished by rules, but if the word already exists in the dictionary a WORD EXISTS message will be displayed and IGNORE WORD ENTRY should be selected. If the operator's entry will correct the COMPUTER hyphenation, the STORE WORD ENTRY should be selected.

   If a word is keyboarded on the terminal for its deletion from the dictionary and it is not in the system, a WORD NOT FOUND message will be displayed and IGNORE WORD ENTRY should be selected.

   A period may be used in a dictionary word entry to indicate that any alphabetic character is valid at that point. The maximum number of characters for a word entry is 32 alpha characters.

2. PUNCH ENGLISH DICTIONARY is selected to output the current version of the English dictionary in binary form so that it may be preserved and re-entered into the system at a later date.
   The selection of PUNCH ENGLISH DICTIONARY causes a display of the options to 1) Punch on Teletype, 2) Punch on High Speed Punch and 3) Verify Dictionary Output Tape. After a selection of 1) or 2) a PUNCHING IN PROGRESS message is displayed. After punching is complete, a vdt display will request verification of the tape by entering it in the high-speed reader, at which time a READING IN PROGRESS message will be displayed.

3) LOAD ENGLISH DICTIONARY enables a previously punched English Dictionary tape, in binary format, to be read into the system. This selection brings forth a vdt display which indicates whether an English Dictionary File exists and, if so, a request is made for a decision whether to delete it by entering a Y or N for yes or no. A request is then made to read the tape into the system via the high speed reader. As soon as the selection is made a READING IN PROGRESS message will be displayed. On completion of the reading a return is made to the previous vdt display.

The **SECONDARY DICTIONARY PROGRAM** produces a display with the following options:

1. PROCESS SECONDARY DICTIONARY
2. PUNCH SECONDARY DICTIONARY
3. LOAD SECONDARY DICTIONARY
4. LIST SECONDARY DICTIONARY
5. UPDATE A SECONDARY DICTIONARY NAME
6. SECONDARY DICTIONARY DIRECTORY

1. PROCESS SECONDARY DICTIONARY produces a display requesting a numeric identification (1-99) of the dictionary followed by the name of the dictionary (maximum of 12 characters). The word can then be tested, entered or deleted in the same manner as outlined for the English Dictionary Program. Note: During dictionary processing, all inactive vdts will display the following message: DICTIONARY UPDATING NOW IN PROGRESS.

2. PUNCH SECONDARY DICTIONARY presents a display offering the options to 1) Punch on Teletype, 2) Punch on High Speed Punch and 3) Verify Dictionary Output Tape, as for the English Dictionary, except that the Secondary Dictionary must be identified.

3. LOAD SECONDARY DICTIONARY presents a display to load from the high speed reader after the dictionary has been identified by number and name and the decision has been made whether to delete (Y or N).

4) LIST SECONDARY DICTIONARY presents a display for identification of the dictionary by number and name and a choice of whether the listing is to be output on the teletype or on a line printer (if any). The listing will be single column in alphabetic order, showing all hyphen points assigned. At completion of the listing a return will be made to the previous vdt display.

5. UPDATE SECONDARY DICTIONARY NAME produces a display requesting number and name of the dictionary and a decision to 1) Add Name to File, 2) Change Name in File or 3) Delete from File. Error messages will be flashed respectively if the name requested exists or is not found. (NEXT moves to next field and TCL returns to previous vdt display.)

6. SECONDARY DICTIONARY DIRECTORY displays numbers and names of all existing secondary dictionaries in their numeric order.

NOTE: Please refer to the composition mark-up guide for the Temporary Dictionary command which can be entered at input or via the vdt when using the composition program to modify the hyphenation for a given job only.

function: **SRCH** (SEARCH)

use: The cursor should be positioned at HOME before the search is initiated (unless the search is to begin at a location within the job). If the screen display is not at the beginning of the job the STRT TEXT key should be depressed. When the SRCH key is depressed the cursor moves to the first position on the second line. The operator can now enter the character, word, phrase or command to be located within the job. The character string may not exceed 46 characters in length and is terminated by an additional depression of the SRCH key. This causes an immediate search for the first occurrence of the character string keyed in. Further searches for the same string may be activated by additional depressions of the SRCH key. If a match is found in the copy on the screen, the cursor will indicate the first character of the string. If a match is found beyond the current screen display, automatic scrolling occurs to bring the located string to the last line of the screen.

A second use of the SRCH key is for a **selective search and update.** The string to be located is keyed in and followed by the INSRT (INSERT) key. Then the updated, or corrected form for the string is keyed in, followed by a second depression of the SRCH key. This causes the first occurrence of the string to be located by the cursor. If this occurrence of the string is to be modified as the string was keyed in after the INSRT key, the HOME key is depressed. If it is to be skipped for a further search the SRCH key should be depressed twice to continue the search to the next occurrence.

A third use of the SRCH key is a **global search and update** in which **all** occurrences of the string being searched are to be converted to the string entered after the INSRT key. The difference in keying-in this type of search and edit, as opposed to the selective search and edit, is that the corrective string is followed by the HOME key and then the SRCH key.

error conditions: No more than a total of 46 characters may be entered in either or both of the locating strings. The 47th character entered causes deletion of the string from the screen and a return of the cursor to the starting position.

function: **INSRT** (INSERT CHARACTER)

use: When the INSRT key is depressed a message is displayed at the upper right corner of the screen. In this mode, any text characters or commands may be inserted into the text at the current cursor position. As each character is entered, the text line moves to the right to accommodate the additional text. When entering the character that would cause the last word in the insert line to be brought down, the current text to the right of the insert point is brought down to form a new line positioned at the left of the screen. The amount of text that may be inserted is practically limitless.

The INSERT mode is required when such macro keys as EM and EN on the terminal keyboard are to be inserted on the screen.

The INSERT mode can be terminated by all cursor keys or the HOME key. At termination of the INSERT mode the cursor remains where it was the moment the terminating key was struck and the INSERT message is removed from the screen. Backspacing (cursor backward) will remove the prior character on the line. The INSERT mode will be terminated when the first original character of the insertion is removed.

error conditions: None.

function: **DEL CHAR** (DELETE CHARACTER)

use: The cursor must be positioned on the character to be deleted. When the DEL CHAR key is depressed, the character is removed and the text is closed up by shifting all text remaining in the line one position to the left.

The cursor remains in position so that if additional characters to the right of the deletion are to be removed, each depression of the DEL CHAR key will remove the next character until all characters in the right hand portion of the line are removed.

If more than a portion of one word is to be deleted it is recommended that a word space be struck and the remaining words be deleted with the DEL WORD key.

error conditions: None.

function: **DEL WORD** (DELETE WORD)

use: The cursor may be placed anywhere within a word and the DEL WORD is then depressed to remove that word. The first depression of the DEL WORD key for a specific word causes the word to be illuminated in the "background mode" (reduced lighting intensity). This is a safety feature so that the operator still has the option to change the decision. If the decision to delete the word stands, the DEL WORD key is struck a second time and the word is removed (with its following word space) and the text is closed up by shifting the rest of the line to the left, leaving the word space that preceded the deleted word.

After a word deletion the cursor remains at the first letter of the word following the deletion so that additional words may be deleted if desired. If word wrap-around is desired after deletions the H & J key may be used.

A word is defined as:

1. a character string bounded on both sides by a word space
2. a command bounded by SUPERSHIFT and UNSUPERSHIFT codes.
3. any end of line code.

error conditions: None.

function: **DEL LINE** (DELETE LINE)

use: When the operator depresses the DEL LINE key the line defined by the current cursor position is set in the background mode. If deletion is desired, the operator depresses the DEL LINE key again and the line is deleted from the screen. The text following the deleted line automatically "rolls up" one line.

When the first DEL LINE key depression is made, the cursor is placed at the beginning of the line when it is displayed in the background mode. As soon as the second DEL LINE key depression is made the cursor rests on the first character of the line that followed the deleted line.

If deletion is not desired and the line is still in background mode, the DELETE mode can be terminated by any key other than DEL LINE.

error conditions: None.

function: **STRT BLK**, **END BLK**, **REM BLK** and **INSRT BLK**
(Start Block, End Block, Remove Block and Insert Block)

use: To define a block the operator moves the cursor to the character that will become the first in the block and then depresses STRT BLK. From that point forward, the entire screen will be placed in background mode. The cursor is then moved to the first character after the end of the block to be defined, and the END BLK key is depressed. Now only the block itself is displayed in background mode.

In order to store the block in memory it must be removed from the screen by depressing the REM BLK. It then disappears from the screen and will remain in a block storage buffer area for future use until a new block is defined. After removal of the block, the remaining text is rolled up.

The cursor is then moved to the first character that will follow the block to be inserted, and the INSRT BLK key is depressed. A block may be inserted throughout the job any number of times by using the INSRT BLK key. It is even possible to insert a block into a different job or into or out of a global format or an input type format.

If the operator errs in the STRT BLOCK entry and wishes to correct it, it is possible to move the cursor to the correct location and redepress the STRT BLK key and the new start of block will be displayed.

error conditions: Nothing will occur if:

1. the END BLK is entered without a prior STRT BLK
2. or a REM BLK is entered without a block having been defined
3. or an INSRT BLK is entered when no block is defined.

function: **SEL PARA** (SELECTED OUTPUT)

use: The SEL PARA function permits the identification of specific blocks of a take to be output either on the phototypesetter or on the punch to avoid composing an entire job on the typesetter.

Marks are entered into the job using the SEL PARA key on the terminal (<XX>). The job is scanned with no output until it encounters an <XX>. After the occurrence of the first <XX>, the copy will be output until another <XX> or <ET> is found, at which time the output is again suspended. Multiple areas bracketed by <XX> commands may occur within a job.

Selected copy must always start at the beginning of a line. The <XX> commands are not automatically removed; however they can easily be eliminated using a global search and replace.

It is possible to output the complete job without removing the SEL PARA codes.

At the close of a job:

1. If NEXT is entered after the COMPOSE statement, the ENTIRE job will be output.
2. If an "S" followed by a NEXT is entered, only selected areas will be output.

error conditions: Errors can result if the SEL PARA insertions are made at the end of or in the middle of lines.

function: **SUPERIOR and INFERIOR** (L/202)

use: The SUPERIOR and INFERIOR keys cause the next character to be printed to be in either the superior or inferior condition: reduced in size, jumped to the proper baseline and expanded slightly to hold the optical weight.

The SUPERIOR and INFERIOR keys when struck produce arrows up or down on the vdt. Any alphanumeric character can be made superior or inferior. The command is immediately self-cancelling, in effect for the next character only.

Off-line text can be keyboarded using <SU and <IN to indicate superior and inferior. The commands <SU and <IN will be altered on processing by the system into the up- and down-arrow screen representations.

error conditions: None.

function: **FIXED SPACES** (EM, EN, THIN, FIG, UNIT)

use: Standard values have been assigned for the widths of the fixed spaces. However, they can be modified by the user. The standard values are expressed in units of the typesetting device being used.

Most typesetters use an 18 unit EM. This provides for an escapement width, in points, equal to the current point size. If the EM is assigned 18 units, the EN is assigned 9 and the THIN 4, 5, or 6 units. The user of the CCI-400 System can specify the widths of any of these fixed spaces in the Width Table Program. The UNIT key, is assigned the minimum relative unit of escapement for the typesetting machine being used.

The FIG (figure) space is assigned the value assigned the figure zero to facilitate tabular composition.

The fixed width keys on the terminal produce the following displays on the CRT screen: <EM>, <EN>, <TH>, <FG>, <UN>.

error conditions: None.

function: **CHNG CASE** (CHANGE CASE)

use: When this key is depressed, the character currently in the position of the cursor is converted to its opposite case. Caps (upper case) are converted to lower case and lower case are converted to caps.

As soon as a character is changed the cursor moves to the next character. If a string of characters is to be converted, the CHNG CASE key is depressed as often as required. To advance the cursor across interword spaces, the CURSOR RIGHT key is used.

error conditions: This function is operational for alphabetic characters only.

function: **SIZE** (SIZE OF TAKE)

use: This key function is used to display the current size (depth) of the take on the upper right-hand corner of the screen. The value is expressed in picas and points and represents an accumulation of leading (line spacing) in the job.

The SIZE function is effective only when the job has been brought up in EDIT mode or the MEAS H & J or the H & J key have been activated.

The SIZE function is an effective tool in matching page depths, especially where variations in leading occur. In such cases the SIZE function, rather than line count, is preferable in gauging page depth.

error conditions: In the PROOF mode there is no calculation of leading and so there can be no depth measurement.

function: **MSG** (MESSAGE)

use: The purpose of the MSG function is to enable the operator to bring some information concerning the job to the attention of the next person who calls the job up on the screen without affecting the typeset output.

When the MSG key is depressed, the words INSERT MSG are blinked at the upper right hand corner of the screen and two asterisks are displayed on the screen to indicate the beginning of the message. The message may then be entered. At the completion of the message the MSG key is again depressed and another pair of asterisks is generated and the message is terminated.

If the INSERT mode is current and a message is also being inserted, the word MSG is added to INSERT in the blinking display on the screen and the message can be entered. As soon as the MSG is terminated, the INSRT mode will continue until terminated by a cursor key or the INSRT key.

Messages can be located quickly by a SEARCH for the double asterisks.

error conditions: Two consecutive asterisks in the input stream would be interpreted by the terminal as a message code. If multiple asterisks are required in the typeset output they will be accepted if they are separated, for example, by a unit space or any other code.

function: **NEXT PARA** (SEARCH FOR NEXT PARAGRAPH)

use: The NEXT PARA key advances the cursor from its current position to the beginning of the next paragraph—the character following the next paragraph-ending command.

Paragraph-ending commands are: Quad Left, Quad Right, Quad Center and End of Paragraph. The Justify Line command is not considered a paragraph ending.

If the next paragraph lies below the screen the text is automatically scrolled up to display the first line of that paragraph as the last line on the screen.

error conditions: If there is no more copy in the current take, the cursor will rest on the string of number signs following the end of text.

function: **STRT TEXT** and **END TEXT**

use: The STRT TEXT key causes the beginning lines of the current take to be displayed on the vdt screen. This function is executed considerably faster than scrolling.

The END TEXT causes a rapid advance to the last "page" of the current job.

error conditions: None.

function: **H & J** (HYPHENATION and JUSTIFICATION)

use: The H & J key causes recomposition of the current take displayed on the vdt screen. The story goes through the hyphenation and justification cycle which determines new line ending points and indicates looseness of any lines whose interword spaces expand beyond the specified maximum.

If a line is loose, two values will be displayed immediately following such a line. They are expressed in picas and points—or ENs and units of the current point size—according to the preference of the installation. The first value indicates how much space must be filled with text to bring the line within standard justification range. A hyphen separates this value from the second value, which indicates the amount of space available for text insertion without causing a line runover.

If, for example, the following display follows a line, <2.4-4.9> it means that the line is 2 picas, 4 points short of justification range. If the text is edited, an addition of text in the line equivalent to 4 picas, 9 points can be made.

error conditions: Any error conditions encountered in the H & J process are flagged on the ID line of the vdt (line 2).

function: **MEAS H & J** (MEASURE HYPHENATION and JUSTIFICATION)

use: The MEAS H & J key causes reprocessing of the take currently displayed on the vdt screen, through the hyphenation and justification program, enabling the display of new line-ending points.

Every line of text is followed by a display of two values expressed in picas and points. The first value represents the length of the line immediately preceding it and the second value represents the depth of that line from the beginning of the job—an accumulation of leading values.

If the following example appears at the end of a line displayed on the vdt:

<16.9x21.2>

it means that the length of that line, from the left margin, is 16 picas, 9 points. The accumulated leading from the top of the job is 21 picas, 2 points.

The last line of the take must be terminated with an end of line command (usually Quad Left) to get a display of line length for that line as well as a display of the total depth of the take.

error conditions: Any error conditions encountered in the MEAS H & J process are displayed on the ID line of the vdt (line 2).

function: **TCL** (TERMINAL CONTROL)

use: When the system is started up, the TCL key is used to enable the entry of the operator's identification (either by initials or by number, depending on the installation). This leads to the display of a "menu" of options available to the operator: job queues, job selection, job entry, processing of formats and system maintenance.

After the operator sign-on, the TCL is often used to recall the previously displayed menu to enable the operator to communicate with the system to perform a variety of tasks.

When a job is displayed on the screen the TCL leads to a menu of job-closing options:

1. REVISED JOB NUMBER
2. REVISED JOB NAME
3. EXPIRATION DATE
4. SET IN PRINTER QUEUE
5. SET IN COMPOSE QUEUE
6. SET IN PROOF QUEUE
7. STORE IN MASTER FILE
8. IGNORE

error conditions: None.

function: **SHIFT TCL** (NEXT GALLEY)

use: If a job is closed using the SHIFTED TCL key, the galley currently on the screen will be stored in the MASTER QUEUE and the next galley of the current job will be brought to the terminal in EDIT mode.

When the last galley of the job has been stored, the system will return to the main menu.

At any time a standard job close can be performed by entering an unshifted TCL.

error conditions: None.

function: **NEXT**

use: The NEXT key is used during all menu selections to initiate the next screen form.

The NEXT key will not generate a character during text editing. It will, however, terminate scrolling during a search.

error conditions: None.

function: **DEF STRING** (DEFINE STRING)

use: Upon depression of the DEFINE STRING key a "B" is displayed above the first line of text. A string of up to 63 alphanumeric characters may be defined, and will be programmed into one of the 16 programmable keys when one of those keys is depressed.

A TCL will ignore the DEFINE STRING request.

The programmable keys will remain in effect until a new assignment is made.

Each terminal has 16 programmable keys.

error conditions: If more than 63 characters are entered the entire string will be erased.

function: **PI** (SPECIAL CHARACTER PRECEDENCE KEY)

use: Selection of special characters is made by depressing the PI key followed by another key in accordance with a chart provided with each CCI-400 Composition System output module.

error conditions: An invalid PI selection will be rejected when the job is sent to H & J or MEAS H & J via that function key.

function: **ROLL** (SCROLL) UP, DOWN

use: The vdt screen displays twenty lines at any time. To display previous lines, the operator uses the ROLL DOWN key either with individual strokes for a line at a time or by holding down to get a continuous rolling of text.

To display lines subsequent to the text currently displayed, the operator uses the ROLL UP key for single lines or multiple lines.

error conditions: If the entire take is displayed the ROLL keys are inoperative.

function: **CURSOR MOVEMENTS**

use: The keys with arrows pointing up, down, left and right are used to move the cursor. By individual strokes, the cursor is moved a single position at a time and by holding down any of the cursor keys a continuous movement will occur.

If there is no more data at the end of a line, a cursor movement to the right will move the cursor to the beginning of the next line. If the up or down cursor key is held down, an automatic rolling of the text will occur as soon as the cursor has reached the top or bottom of the screen.

error conditions: None.

function: **SUPERSHIFT** and **UNSUPERSHIFT**

use: The SUPERSHIFT code (<) is used to indicate the beginning of a mark up command. In essence, it is a "non-text" mode. The UNSUPERSHIFT (>) denotes the termination of such a command and the return to a "text" mode.

The UNSUPERSHIFT is required to terminate all commands containing numeric data. However, it is not required for such non-data commands as quad left or end paragraph when it is being keyboarded.

The terminal always displays the commands in an exploded fashion whenever the job is recalled either in proof or justified mode. For example, to change the column measure to 24 picas, face H, 10 point type with 12 points leading, a single command can be input as follows:

<CC24,H,10,12> or <CP10/12x24,H>

On recall, it will be displayed as follows:

<CC24> <CFH> <CP10> <CL12>

Please note that the two alphabetic characters of the command can be entered either in upper or lower case. On recall, they will be placed only in upper case by the system. The system will terminate all commands with the unsupershift although those without data do not require termination by the operator when the command is keyboarded.

Several keys cause an immediate display of their assigned commands with supershift and unsupershift: <EN>, <EM>, <TH>, <FG>, <UN>, <QL>, <QC>, <QR>, <MC>, and <EP>.

According to the installation standards, one or the other of the shorthand formats shown above may be used.

error conditions: Invalid supershift commands are flagged with error messages at the upper right corner of the screen as well as at the location of the error within the job.

function: **HOME**

use: The HOME key is used primarily for a quick return of the cursor to the beginning of the first line of text on the screen. It does not cause a ROLLING of text. If the operator wishes to return to the beginning of the job, the STRT TEXT key should be used.

In purging expired jobs, the HOME key is used as a "confirmation" key—a safety device—to avoid accidental purging of files.

If the HOME key is depressed next to a menu that menu's contents will be printed on the line printer in its entirety. If the HOME key is depressed preceded by an alphanumeric character, with the cursor positioned beside the Master Queue, the directory of jobs beginning with that character will be printed.

In the Selective Search and Update procedure, HOME is used to confirm updating of data selectively, and in the Global Search and Update, HOME is used to indicate whether all locations of the search are to be updated. Please refer to the section on SRCH (Search) in this guide.

error conditions: None.

function: **FORMAT**

use: When the operator wants to check a format in use, he depresses the FORMAT key. The cursor moves to the first position on the second line and the operator enters the number of the format to be displayed or the % code used to access it. The operator then presses the NEXT key and the format is displayed on the screen. To return to the text, the operator presses TCL and the text reappears with the cursor in the exact location it was in before the format was displayed.

Global formats are called for by placing a G after the number of the global format desired.

A format cannot be altered during this display. To alter a format, the operator must access it through the format file or at the place it was entered in the text.

function: **CORR** (CORRECTION)

use: When making corrections to a job for which a Chapter Map has been built (jobs that have gone through "paging") the system will automatically flag all lines that have been changed by placing a C in the left margin of the paper. The CORR key is used to differentiate between corrections that were due to author's alterations and corrections that are not chargeable to the client (printer's errors). The key functions as a toggle switch. To denote house corrections, the key is pressed and an "H" begins to flash in the upper right hand corner of the screen. Any lines changed while the "H" is flashing will be flagged by an "H" in the margin. To denote author's alterations, the key is pressed and the "H" will disappear. Now a "C" will be placed in the margin of all lines changed until the CORR key is hit again.

The "H" or "C" will appear in the margin on the line printer copy. User specified characters corresponding to the "H" and "C" will appear on the typesetter output.

CCI-400 composition mark-up guide

COMPOSITION COMMANDS

The **CCI-400 Composition System** accepts streams of copy comprised of both text and mark-up command codes.

To distinguish easily between text characters and characters that make up composition commands, the upper rail and lower rail functions are usually assigned the "supershift" and "unsupershift," functions, respectively. Symbolically, the supershift function is represented by a "<" and the unsupershift function by a ">".

Commands may be entered in either of two forms: multi-key or single key. The commands given in their multi-key form must always commence with the supershift character (<). The supershift is always followed by two alphabetic characters which define the command. Some commands require that the two alphabetic characters be followed by additional strings of variable characters for parameter designations. In this type of command, the variable field must be ended by the unsupershift character (>).

Some of the fixed-length commands are available also in a single-key form, used in preference to the multi-key version such as <QL for quad left or <MC for merge copy.

Many commands are of the fixed length type and are complete in themselves, such as <EP for "End Paragraph" or <EF for "End Format." These commands require only the supershift character (<) followed by two alphabetic characters.

The variable commands, which require additional information, must be ended by the unsupershift command (>) to inform the computer system that the command has ended. These commands normally contain one or more numeric values, such as <CC20> which changes the current column measure to 20 picas, or <SF1> which stores the format designated as number 1 into the computer's memory for later use. Examples of multiple value commands will be defined in another section.

command: Job Command

keyboard as: <**JC** Job,galley,disp.,name,expire>

where:

Job = job number, up to 5 alphanumeric characters maximum

gal = galley number, 4 numeric characters maximum

disp = disposition:

P—place job in proofing and master queues
C—compose job
L—list on line printer without markup and place in master queue
M—list on line printer with markup and place in master queue
G—break job into galleys
■—lack of proper job identification places job in default queue

name = name of job, 16 alphanumeric characters maximum

expire = expiration date, last day that the job will be active, after this date the job will be placed in the expiration queue to be removed from the file. Month and day indicated as follows: MMDD (must be 4 numeric characters). Defaults to today's date.

command: Position Font Disk (L/202)

keyboard as: <**PDn1,n2**> Positions Customer Font Disk 0 (CFD-0) on L/202 drive 1 and CFD-1 on L/202 drive 2

n—is the font number or mnemonic assigned in the width table program.

By default, CFD 0 will be positioned in the L/202 drive 1. If only fonts from CFD 0 are required, no <PD command is necessary. Since CFD 0 is automatically positioned, the <PD command need only indicate the optional CFD. To position fonts from CFD 0 and CFD 3, the command is:

<PD3>

effect: The widths for the fonts set up on the disks specified in the command will be stored in the computer memory. Change Font commands are now made using the font numbers or mnemonics assigned in the width table program.

termination: End of Take

special considerations: If a font number is specified in the command and its width table has not yet been entered into the system, an error message will appear on the screen of the vdt.

CCI-400 composition mark-up guide

command: Position Fonts (V-I-P)

keyboard as: <**PAn1,n2,n3,n4,n5,n6**> Positions fonts on A drum
<**PBn1,n2,n3,n4,n5,n6**> Position fonts on B drum
<**PCn1,n2,n3,n4,n5,n6**> Position fonts on C drum
n—is the font number or mnemonic assigned in the width table program.

If no font is to go into a slot ahead of the font(s) being assigned, leave the slot empty but show a comma for each vacant position. Commas need not be indicated after the last entry on the drum.

Example:
Font A23 is to be placed on position 4 of the B drum:

<PB,,,A23>

effect: The font widths specified in the command(s) will be stored in the computer memory in the sequence given. Change Font commands are now made using the font numbers assigned in the width table program.

termination: End of Take

special considerations: The above is for the 3-drum Mergenthaler V-I-P phototypesetter. For a single-drum machine drum "A" should be referenced in the Position Font command.

The Position Font command must appear in the job prior to the first Change Font command.

If a font number is specified in the command and its width table has not yet been entered into the system, an error message will appear on the screen of the vdt.

TYPESETTER CONTROL COMMANDS

The typesetter control commands specify: Column Measure, Type Face, Point Size and Leading.

The control command parameters listed above can be issued as individual commands or in condensed form referred to as a "combination command." Two different combination command forms are available, according to the preference of the installation.

Column Measure — The column measure is entered in picas, points, or picas and points. The minimum column measure is one pica and the maximum is restricted by only those capabilities of the typesetting device. All values having an amount represented in points must be preceded by a decimal point.

Type Face — The type face to be used is specified by a number consisting of any combination of alphanumerics up to 4 characters. This number in turn references an appropriate width table in the computer program. The type face number is automatically converted to the appropriate font position for the typesetting device.

Point Size — The desired point size of the type to be used is specified in points and half points. The designated point size automatically is converted to the appropriate lens position for the typesetting device.

Leading — The amount of desired leading is specified in points and half points. This amount of vertical spacing occurs prior to the typesetting of the current line. The minimum amount of forward or reverse leading is zero, and the maximum amount is determined by the typesetting device used.

NOTE: If no leading value is given, the computer program automatically calculates the appropriate inter-line leading. This calculation is determined as one-third of the prior line's largest point size plus two-thirds of the current line's largest point size.

Following are examples of two types of combination command. Either option is available as a system standard. The command codes are shown in capital letters. However, in practice, the letters may be either upper or lower case. The punctuation separating the parameters **must** be included. Word spaces (or any other extraneous codes) are not permitted within these commands.

COMBINATION COMMAND A	EFFECT	
<CP11/12x24.6,HB>	Point Size:	11 points
	Leading:	12 points
	Column Measure:	24 picas, 6 points
	Typeface:	Helvetica Bold

COMBINATION COMMAND B	EFFECT	
<CC24.6,HB,11,12>	Column Measure:	24 picas, 6 points
	Typeface:	Helvetica Bold
	Point Size:	11 points
	Leading:	12 points

The system contains default values for column measure, type face and point size and leading. These standards are set to the installation's requirements. When an error is detected in a command affecting one of these functions, that function is set to the installation standard.

command: Change Column Measure

keyboard as: <**CC** and the column measure in picas, points or picas and points and terminated by a >.

effect: The command replaces the previous column measure specified. Normal usage would be to specify a column measure change at the completion of a line. However, the system will accept a measure change at any point in the text string.

termination: The column measure will be changed to a new value upon receipt of a new <CC command. The column measure will be reset to the system standard upon receipt of an End of Take command (<ET).

special considerations: The range of the column measure is determined by the capacity of the typesetter.

If the command is invalid, the column measure is set to the system standard.

If a Change Column measure command is entered within a line, the following line will be set to the new specified width.

<**CC31**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to<**CC20**>160 million characters of storage. All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.<**EP**>
<**CC16.6**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.<**EP**>

command: Change Face

keyboard as: <**CF** and an identifier specifying a type face and terminated by a >.

effect: The identifier calls the appropriate font width table from disk and issues the typesetter control codes for selecting the specified font.

termination: The current type face will be changed upon receipt of another <CF command regardless of its location within the text. The type face will be changed to the system standard upon receipt of an End of Take command (<ET).

special considerations: An error in the command or its portion of a combination command will result in selection of the system standard type face.

<**CFSOM**>
The CCI-400 computer is a completely automated typographic front-end system that uses <**CFSOLI**>*multiple video display terminals* <**CFSOL**>for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.<**CFOB**> **All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously.**

CCI-400 composition mark-up guide

command: Lower Rail (L/202)

keyboard as: **<LR**

effect: All characters will be retrieved from the next lowest sequence font of the CFD used.

termination: Lower rail access will continue regardless of size change until a <UR or Upper Rail command is encountered.

special considerations: The Lower and Upper Rail assignments depend on the setup of the L/202 disk directory in the Width Table Utility Program.

command: Upper Rail (L/202)

keyboard as: <**UR**

effect: All characters will be retrieved from the next highest sequence font of the CFD used.

termination: Upper rail access will continue regardless of size change until a <**LR** or Lower Rail command is encountered.

special considerations: The Lower and Upper Rail assignments depend on the setup of the L/202 disk directory in the Width Table Utility Program.

command: Change Point Size

keyboard as: <**CP** and the number of points (and half points, if possible) and terminated by a >.

effect: The point size value is converted into the appropriate typesetter codes to activate the specified size. CCI systems can alter the computational values to achieve a change of point size within a line.

termination: The point size is changed upon receipt of another <CP command. The point size is reset to the installation standard upon receipt of an End of Take command (<ET).

special considerations: An error in the command results in selection of the installation standard point size. When the change in point size occurs, and leading is not specified, automatic leading is activated.

If the typesetting device cannot accept half point increments, the half point value will be discarded by the computer program.

<**CP12**>
The CCI-400 computer is a completely automated typographic front-end system that uses<**CP14**>multiple video display terminals <**CP18**>for revising and<**CP12**>editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters.<**CP10**>It's a true interactive operating system, the only one in its price range.

command: Change Leading

keyboard as: <**CL** and the amount of leading in points and half points and terminated by >.

effect: This command serves to override the automatic leading normally calculated by the computer.

The Change Leading command causes vertical forward leading to occur at the start of each line in the amount specified.

termination: The change leading amount is overridden by a new <CL command. Upon receipt of a <KL (Kill Change Leading) command, a <CP (Change Point Size) unaccompanied by a change of leading command or an <ET (End of Take) command, the system reverts to the automatic leading capability.

special considerations: A Change Leading amount of zero is applicable to the current line only. After the zero lead is performed, the automatic leading will again be in effect.

If the typesetting device cannot accept half point increments, the half point value will be discarded by the computer program.

<**CL12**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.
<**CL20**>

In this way, many operators can use the system totally independently

of each other, even while text data is being input and output data is

command: Zero Leading

keyboard as: <**ZL**

effect: No leading will be generated prior to setting the current line. After the current line is set, the automatic or stored (<CL) leading amount, whichever is in effect, will be resumed.

termination: If a stored leading value (<CL) is entered within the current line after the <ZL, the zero lead will be nullified and the stored leading will be in effect.

special considerations: The <ZL command immediately follows the line ending and affects only the current line. If stored leading was in effect, it will be resumed immediately after the current line.

The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for:

a. <**QL**><**ZL**><**IP11**> revising and editing copy;<**EP**>
b. <**QL**><**ZL**><**IP11**> paper tape or on-line output;<**EP**>
c. <**QL**><**ZL**><**IP11**> keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy;<**EP**>
d. <**QL**><**ZL**><**IP11**> rigid-disk data files for up to 160 million characters of storage.<**EP**>

All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously.

command: Kill Change Leading

keyboard as: <**KL**

effect: This command will cancel any Change Leading amount now in effect and cause automatic leading to be used by the system.

termination: Not Applicable.

special considerations: If no Change Leading is in effect, this command will be ignored.

A change of point size unaccompanied by a change leading value will also kill the stored leading.

<**KL**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape,floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters. All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other,even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.

command: Increment Automatic Leading

keyboard as: <**IA** followed by the amount of incremental leading in points and half points and terminated by >.

effect: This command will increment the computed automatic leading value by the number of points of forward leading specified in the <IA command.

termination: The <IA command is overridden by a new <IA command. It is terminated by an <ET (End of Take) or by setting <IA0> (Increment Automatic Leading Zero).

special considerations: If the typesetting device cannot accept half point increments, the half point value will be discarded by the computer program.

<**CP12**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or <**CP14**>on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and <**CP12**>rigid-disk data files for up to 160 million characters of storage.<**EP**>
<**IA4**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or <**CP14**>on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and <**CP12**>rigid-disk data files for up to 160 million characters of storage.<**EP**>

command: Extra Leading

keyboard as: <**EL** and the amount of leading in points and half points and terminated by >.

effect: The effect of the command is immediate. The film is advanced in the forward direction the specified number of points.

termination: Not Applicable.

special considerations: Up to 2000 points of immediate leading may be requested with one command.

If the typesetting device cannot accept half point increments, the half point value is discarded by the computer program.

The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.<**EP**>
<**EL6**>

All this is done in a true multi-tasking environment, which means that all functions can be performed<**EL12**>
simultaneously. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.

command: Reverse Leading

keyboard as: <**RV** and the amount of leading in points and half points and terminated by >.

effect: The effect of the command is immediate. The film is moved in a backward direction the specified number of points.

termination: Not Applicable.

special considerations: Up to 2000 points of reverse leading may be requested with one command.

If the typesetting device cannot accept half point increments, the half point value is discarded by the computer program.

The <**RV6**>CCI-400<**EL6**>computer is a completely automated typographic front-end system that uses multiple video display terminals.

CCI-400 composition mark-up guide

command: Change Width (L/202)

keyboard as: <**CW** followed by the point size corresponding to the width desired and terminated by a >.

effect: The height of the characters following this command will be equal to the point size last stated. The width, however, will be equal to the size specified in the <**CW**> command.

termination: The change width command will be terminated by a change point size command <CP or another change width command <CW or an end of take <ET>.

special considerations: A <**CW**> of less than the point size in effect is used to condense the type. A <**CW**> of more than the point size in effect is used to expand the type.

<**cp12/14,h**>
This is normal 12 point type.
<**cw10**> produces a condensed helvetica.
<**cw8**> is even more condensed.
<cw14> is expanded.
<**cw24**> is more expanded.

command: Font Italic (L/202)

keyboard as: <**FI**>.

effect: Activates the electronic mechanism of the 202 to create an oblique (pseudo-italic) font.

termination: The font italic command will be terminated by a font roman <**FR**> command or by a change of face command <CF or by an end of take <ET>.

<**cp12/14,h**>
This is normal helvetica.
<**FI**>
This is helvetica after the font italic command.

command: Font Roman (L/202)

keyboard as: <**FR**> .

effect: Cancels the obliquing mechanism on the 202 to return to roman font.

termination: The font roman command <**FR**> will be terminated by a font italic command <**FI**>, by a change of face command <CF , or by an end of take <ET>.

HYPHENATION & JUSTIFICATION COMMANDS

The Hyphenation and Justification commands available allow the user to control text spacing on a character, word or line basis. Also the user will find that the ability to control white space adjustment values and character-to-character escapement exists on an easy-to-use level.

These commands provide for selection of the method of justifying lines, specifying hyphenation, indicating letterspacing, and determining kerning amounts.

Copy can be specified to be set:

Justified or ragged with or without hyphenation
Justified or ragged with or without letterspacing
Justified or ragged with altered interword spacing
Justified or ragged with or without ragged margins
Justified or ragged with altered type face white space adjustments
Justified or ragged with reference to kerned widths
Justified or ragged with hanging punctuation

Justification is computed by summing the width values of the input characters, by word, continuously comparing that total with the specified column width. When a word causes an overflow of the column width, justification is attempted, using the characters up to the last interword space. If the interword spaces do not exceed the maximum specified, the line is set. If hyphenation is allowed, and the line is loose, hyphenation is attempted. The hyphen point providing for the tightest line will be selected.

The minimum, optimum and maximum interword expansion provides for varying interword spacing to achieve justification.

Letterspacing is used only as a last resort approach for justification.

Following are the commands and their descriptions which provide for complete control of the methods in which the text will be set.

command: Ragged Right

keyboard as: <**RR**

effect: All lines following the command will be set quad left. If hyphenation and/or letter spacing are to be used in the justification process, they must be requested following the ragged command. The interword spacing will always be at the optimum value.

termination: The command is terminated by:

Ragged Left or Ragged Center command
Cancel Ragged command
End of Take command

special considerations: All ragged commands cancel hyphenation and letter spacing and use the optimum value for interword spacing. Hyphenation and letter spacing, if standard, will be restored upon termination of this or any ragged command.

<EP, while in a Ragged Right mode, causes the line to set quad left.

If hyphenation is specifically allowed while in a ragged mode, no two consecutive lines will be hyphenated.

The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.
<**RR**>
All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.

command: Ragged Center

keyboard as: <**RC**

effect: All lines following this command will be set quad center. If hyphenation and/or letter spacing are to be used in the justification process, they must be requested following the ragged command. The interword spacing will always be at the optimum value.

termination: The command is terminated by:

Ragged Left or Ragged Right command
Cancel Ragged command
End of Take command

special considerations: All ragged commands cancel hyphenation and letter spacing and use the optimum value for interword spacing. Hyphenation and letter spacing, if standard, will be restored upon termination of this or any ragged command.

<EP, while in a Ragged Center mode, causes the line to set quad center.

If hyphenation is specifically allowed while in a ragged mode, no two consecutive lines will be hyphenated.

The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for:
<**RC**>
revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.<**EP**>
<**RR**>
All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.

command: Ragged Left

keyboard as: <**RL**

effect: All lines following the command will be set quad right. If hyphenation and/or letter spacing are to be used in the justification process, they must be requested following the ragged command. The interword spacing will always be at the optimum value.

termination: The command is terminated by:

Ragged Center or Ragged Right command
Cancel Ragged command
End of Take command

special considerations: All ragged commands cancel hyphenation and letter spacing and use the optimum value for interword spacing. Hyphenation and letter spacing, if standard, will be restored upon termination of this or any ragged command.

<EP, while in a Ragged Left mode, causes the line to set quad right.

If hyphenation is specifically allowed while in a ragged mode, no two consecutive lines will be hyphenated.

<**RL**>
All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters.

<**XR**>
It's a true interactive operating system, the only one in its price range. The system provides for a high degree of typographic control. White-space adjustment, aesthetic kerning and word space refinment are set up as system standards and are automatic under normal operation.

command: Cancel Ragged Margin

keyboard as: <**XR**

effect: The command cancels the effect of a Ragged Left, Right or Center command. Hyphenation and letter spacing will be restored, if allowed as the system standard.

termination: The effect of the command is terminated when a Ragged Left, Right or Center command is given.

special considerations: None.

The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.
<**XR**>
All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.

command: Change Ragged Range

keyboard as: <**CR** followed by a value in picas and points and terminated by a >.

effect: When ragged mode is in effect, the column measure (after adjustment for right-hand indents) will be modified in the following manner:

1. The range specified by the CR command will be at the right margin for RR, the left margin for RL, and half of the range will be at both left and right margins for RC.

2. If the current line does not enter the range, the next line will be based on the full adjusted column measure without regard to the range.

3. If the current line enters the range, the next line will be based on the adjusted column measure less the range.

termination: Another CR command, another ragged command, an XR (cancel ragged) or an End of Take command.

special considerations: If hyphenation is specifically allowed, no two consecutive lines will be hyphenated.

<**CR0**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.<**EP**>
<**CR2**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.<**EP**>

command: Allow Hyphenation

keyboard as: <**AH**

effect: Hyphenation will be allowed as part of the justification process.

termination: The command is terminated by an <XH (Cancel Hyphenation) command, or by a ragged command if system installation standards call for no hyphens in rag.

special considerations: For hyphenation to occur, the following conditions must be met:

1. The interword space exceeds the maximum value specified;
2. The word contains five or more characters.

System installation standards will be implemented:

1. No less than two (or three) characters will be turned to the next line as specified.
2. Numeric strings with commas may or may not be hyphenated as specified.

<**AH**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters. All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously.
<**XH**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters. All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously.

command: Cancel Hyphenation

keyboard as: **<XH**

effect: Hyphenation will not be considered as a means to achieve justification.

termination: The command is terminated by an <AH (Allow Hyphenation), an End of Take command or an <XR (Cancel Ragged) if the installation standards call for hyphenation in justified copy.

special considerations: Not Applicable.

command: Discretionary Hyphenation

keyboard as: **<HH**

effect: The command is used to indicate a hyphen point within a character string. The command can also be used to force hyphenation at a selected point.

termination: The command is valid only for the word in which it appears.

special considerations: If more than one Discretionary Hyphen appears in a word the one resulting in the tightest allowable line will be used.

If a word is not to be hyphenated, hyphenation can be inhibited by entering a <HH command immediately after the last character of the word.

The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display termin<**HH**>-als for revising and editing copy; paper tape or on-line output; key<**HH**>-board, magnetic tape,floppy disks and optical character re<**HH**>-cognition systems for input of new copy; and rigid-disk data files for up to 160 million characters.

command: Allow Letter Spacing

keyboard as: <**AL**

effect: Letterspacing will be one of the conditions allowed for justifying a line.

termination: The command is terminated either by an <XL (Cancel Letter Spacing) command or an End of Take command.

special considerations: Letterspacing is a last resort for justification. The space will be distributed evenly among all characters in the line.

Please refer to the Change Spacing <CS command for control of the maximum letter spacing value desired.

<**XL**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape,floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters.
<**AL**>
All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other,even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.

command: Cancel Letter Spacing

keyboard as: **<XL**

effect: The command terminates the use of letter spacing as a means of justification.

termination: The command is terminated by an <AL (Allow Letter Spacing) and an End of Take command.

special considerations: None.

command: Change Interword Spacing

keyboard as: <**CS** and the minimum, the optimum, the maximum interword width values desired, the maximum value for letterspacing, and the maximum allowable hyphens in a row, and terminated by >.

effect: The values entered to denote the minimum, optimum and maximum size of the interword space and maximum letterspace are expressed in the same units as as those used in specifying the width of a character. The command will affect the first complete line following the command.

termination: The command is terminated by another <CS command or by an End of Take command (at which time the standard values for interword spacing are restored).

special considerations: If no value is entered for a given parameter, the value currently in use will remain in effect (i.e., if the values of 4, 8, 16 and 2 are in effect and a <CS,9,18> is issued, the values will now be 4, 9, 18 and 2).

Interword spacing is used during the justification phase as follows:

1) A line that is quadded will use the specified optimum spacing.
2) A line that is justified will use the range of minimum to maximum spacing. If an amount of interword space greater than maximum is required to justify a line, hyphenation of the overflow word, if allowed, is attempted. If, after hyphenation, the required interword space still exceeds maximum, letterspacing will be used up to maximum. If the interword space still exceeds maximum, the interword space will now, as a last resort, be allowed to expand as required for justification.

<**CS3,5**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy.
<**CS3,3**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy.
<**CS7,9**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy.

command: Set White Space

keyboard as: <**SW** followed by a positive or negative (minus) value in basic machine units, and terminated by >.

effect: The white space adjustment specified will be added to or subtracted from each character processed until terminated.

termination: The white space adjustment will be terminated by:

1. Replacement by another <SW command;
2. Change of face or size, which will restore to preset standard for the new face-size combination;
3. End of Take command.

A hyphen is entered prior to the value to indicate a negative value.

This command is useful for adjusting the spacing between leader dots as well as text.

The V-I-P/Linotron 202 version of the program stores and retains the modified value of the first occurrence of an <SW command for the specific face and size modified. All changes of font and size for previously modified values will use the last modified values until the end of the take.

If an <SW> is specified with no adjustment value, the unadjusted width table standard will be restored for that font and size.

<**SW-3**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard,<**SW9**>magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters.

command: Kern Character

keyboard as: <**KC** followed by the number of units of kerning and terminated by >. If space is to be added, a negative kerning value is expressed with a hyphen preceding the value.

effect: The value entered denotes the number of units to be subtracted from (or added to) the width of the next character. The value is expressed in the same units used in specifying the width of a character.

termination: The command is in effect for the next character only.

special considerations: If a quad code, End Paragraph or End of Take command is found before the next character, the kern request is terminated.

AWAI
A<**KC6**>W<**KC6**>A<**KC6**>I
AWAI

command: Allow Kerning

keyboard as: <**AK**

effect: Automatic kerning for all combinations specified in the Width Table Directory will be accomplished according to the kerning values specified for these combinations in each font width table.

termination: The cancel kerning command: <XK. An End of Take command will reestablish the system standard for kerning.

special considerations: None.

<**AK**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape,floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters.
<**XK**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape,floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters.

command: Cancel Kerning

keyboard as: <**XK**

effect: Automatic kerning will cease for all fonts and all combinations.

termination: An allow kerning command: <AK. An End of Take will reestablish the system standard for kerning.

special considerations: None.

command: Allow Widow

keyboard as: <**AW**

effect: The command allows a three letter hyphenation on a quadded line.

termination: <XW

special considerations: None

<**XW**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape,floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters.
<**AW**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape,floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters.

command: Cancel Widow Hyphenation

keyboard as: <**XW**

effect: The command will disallow a three character hyphenation on a quadded line.

termination: <AW

special considerations: None

END OF LINE COMMANDS

The end of line commands allow for the placement of text within a predefined column measure.

The choices available for text placement are as follows:

Flush with the left margin
Flush with the right margin
Equally spaced from both the left and right margins
Flush with both the left and right margins

Following are the commands and their descriptions which provide for the complete control in the placement of text within a defined column measure.

command: Quad Left, Quad Right, Quad Center

keyboard as: <**QL**, <**QR**, <**QC**

effect: Non Tabular Mode:

The material preceding the command will be set flush left, right or centered within the measure and interword spaces will be expanded up to the optimum width for quads. The line will be leaded the amount specified by either the Change Lead command or the automatic leading computation.

Tabular Mode:

If the line has been marked for tabbing (<MA) and tabs have been set, the material preceding the quad command will be set flush left, right or centered within the current tab column, and the system moves to the next tab column. Leading will not take place within the line unless a column overflow occurs or until a <QT (Quad Tab Line) or another <MA is issued.

termination: Not Applicable.

special considerations: When the copy overflows a column in tab mode it will be set justified (or ragged if specified) within the column. The current leading will occur, and composition will continue in the current column until the first quad command.

The CCI-400 computer is a<**QR**>
completely automated typographic<**QR**>
front-end system that uses<**QR**>
multiple video display terminals for<**QC**>
revising and editing copy;<**QC**>
paper tape or on-line output;<**QC**>
keyboard, magnetic tape, floppy disks and optical character<**QC**>
recognition systems for input of new copy;<**QC**>
and rigid-disk data files for up to<**QC**>
160 million characters of storage.<**QC**>
All this is done in a true multi-tasking environment,<**QL**>
which means that all functions can be performed<**QL**>
simultaneously.<**QL**>

command: Justify Line

keyboard as: <**JU**

effect: The Justify Line command is used to terminate a line and force justify it to full measure (or tab column width when in tabular mode).

Word spacing is expanded sufficiently to fill the measure. If the interword spacing exceeds the standard maximum, letterspacing—if allowed—will be used up to the standard maximum value to bring the interword spacing within the standard justification range.

All lines with interword spacing greater than the standard maximum are identified on the screen by two numeric values displayed in brackets at the right or below the line. The first value represents the number of picas and points (or ENs) required to bring the line within justification range, followed by a hyphen and the second value, which represents the total number of picas and points (or ENs) that can be inserted in the line.

termination: None.

The CCI-400 computer is a completely automated typographic<**JU**>
front-end system that uses multiple video display terminals<**JU**>
for revising and editing copy; paper tape or on-line output.<**JU**>

command: End of Paragraph

keyboard as: **<EP**

effect: The <EP command is the standard line ending command and is used to control the various types of paragraph indents.

Paragraph Indent Initialization:

The <EP signifies the beginning of a new paragraph, concerning the <IF and <IH commands. (See <IF and <IH commands.)

The <EP causes the text which follows to be considered the first line of a new paragraph. Any text preceding the <EP which has not yet been terminated will be quadded left.

If a ragged setting is in effect, the <EP command will cause the line to quad in the appropriate direction as related to the ragged mode. (See Ragged Commands.)

Paragraph Indent Termination:

The <EP signifies to the system the termination of any indent specified by an <IP or an <IX. (See <IP and <IX commands.)

termination: Not Applicable.

special considerations: Within the tab mode a <EP will cause a quad left, right or center on the line, but will not cause a step to the next tab column.

PAGE MAKE-UP COMMANDS

The commands available for vertical control of text for page make-up are introduced within this section. These commands allow the user to control the vertical start and end points within a block of text as well as allowing for the return to a previously defined start or end position upon command issuance.

What these commands allow the user to control are those text control capabilities needed to typeset multiple columns of justified text as needed in book publishing applications, simulation of tabular type copy as used in financial printing applications, or simulated text panel control as used in forms printing.

Those commands that are included and described in the following pages allow for complete control of text when vertical positioning becomes necessary.

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command: Point Mark

keyboard as: **<PM**

effect: The current vertical position on the page is stored so that a subsequent return to that position may be made (automatic film return) by using the <RM (Return Mark) command.

termination: The saved position is reset to a new value by another <PM. The saved position is set to zero at an End of Take command.

special considerations: The <PM takes effect at the vertical depth of the first line of type following it. A new <PM may be automatically set with each <MA (Mark Beginning Tab), according to the system standard.

<CC31><PM><IT0,16>
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<RM><IT16,0>

All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system.**<QL>**
<RX><IT0,0>

command: Return Mark

keyboard as: **<RM**

effect: The vertical position saved by the <PM command is immediately returned to by leading the appropriate number of points in either the forward or reverse direction.

termination: Not Applicable.

special considerations: The <RM command does not affect the vertical position saved by the <PM command. Therefore, once marked, the position can be returned to as often as desired.

If an <RM command is issued and no previous <PM command has been specified within the take, a vertical return automatically will be made to the start of the take.

The <RM causes a <PX (Point Maximum) command to register the depth of the column entry.

command: Point Maximum

keyboard as: **<PX**

effect: The <PX command enables the user to specify the maximum depth attained on a page of multi-column material.

The Point Maximum command marks the maximum depth of the current column, wherever it is issued in a string of text. If a previous <PX has been issued, the new command compares its own vertical position with that of the previous command. If the current position is greater than the previous, it is saved; otherwise, it will be ignored.

termination: The <PX save position is cleared upon receipt of an <RX (Return Maximum) command or an End of Take.

special considerations: Each <RM (Return Mark) causes a <PX to occur.

command: Return Maximum

keyboard as: **<RX**

effect: The maximum vertical position saved by the <PX command is returned to immediately by leading the appropriate number of points.

termination: Not Applicable.

special considerations: The <QT (Quad Tab Line) causes an <RX to generate sufficient leading to avoid an overprint condition of preceding tab column entries.

A <MA (Mark Beginning Tab) causes a <RX if the previous tabular line has not been terminated by a <QT (Quad Tab Line).

TABBING COMMANDS (page 1 of 2)

The Tabbing Commands provide for the definition of multiple tab columns within a specified column measure and the positioning of text relative to an individual tab column.

The width of a tab column may be defined as:

A width expressed in picas, points, or picas and points.
Equally spaced columns which fill the measure.
Columns proportionally spaced to each other, filling the measure.
Starting with a position relative to a text position on a previous line.

A column measure may be divided into 20 tab columns using fixed, equal or proportional spacing definitions. A column measure may also be divided into 20 tab columns using a prior text position.

Text can be positioned left, right, centered or justified within a tab column. The following are examples of text positioned within tab columns:

Tab Column	Tab Column	Tab Column
quad left	quad left	quad left
quad right	quad right	quad right
quad center	quad center	quad center

When processing tabular copy the following restrictions will apply:

1. Tab columns must be defined within the measure by a tabular "set-up" command before any of the tab composition commands can be used. If the tab composition commands are entered and a tab column "set-up" command has not been executed, the tabbing commands will be ignored and the copy set in accordance with the composition format currently specified.

2. The left margin of the first tab column is the left margin of the measure, provided no indents have been specified before the tab "set-up" command is executed. If indents are in effect, the left margin of the first tab column is at the indention specified from the left margin of the measure. The same applies to the right margin of the last tab column. If a right hand indention has been specified, the right margin of the last tab column is at the indent specified from the right margin of the measure.

3. A <MA (Mark Beginning Tab) command indicates the beginning of text that is to be set in a tabular format. If no line-ending code preceded the Mark Beginning Tab command, the preceding line of text will be set quad left, and tabbing will begin on the next line. For example, the following string:

<MA The rain in Spain <QR falls mainly <QC in the plain. <QL

would be set as:

Tab Column	Tab Column	Tab Column
The rain in Spain	falls mainly	in the plain.

right margin ◆ ◆ left margin

Tabbing is begun at the left-most tab column and moves, column by column, to the right. A Quad Tab command is used to terminate a tabbed line and cause leading to occur prior to the next line.

TABBING COMMANDS (page 2 of 2)

4. The use of positioning tab commands (<QL, <QR, <QC and <JU) when they are not preceded by text, has the effect of moving from the current tab column to the next tab column. For example, assume three tab columns have been specified. The following text string

<MA <QL ABC <QL <QT

would be set as:

Tab Column	Tab Column	Tab Column
	ABC	

The <MA command specifies that the tab line is to start and also sets the tab column counter equal to column number one. Each time a quad command is encountered, the tab column counter is increased by one, thus stepping to the next tab column.

The <EP (End Paragraph) command causes the text to be quadded left, but does not cause a step to the next tab column.

The <QT (Quad Tab) command ends the tab line, causing it to be set, as well as interline leading to occur, and the system returns to its prior non-tab mode environment. If a quad or justify command is not issued for the text in the current tab column, and a Quad Tab command is issued, the text will automatically be set quad left.

If a tab line is being processed and an <MA is requested, a <QL automatically will be produced for the current tab line and a new tab line will be started.

5. If there is excess text to fit within a tab column, the text will be set justified within the tab column and the excess will continue on the following line. The first line of text to be set in the next tab column will then be set on the same line as the last line of text of the prior tab column.

6. A tab column "set-up" command remains in effect until another "set-up" command is given or a Cancel Tab command is given.

7. If indents are requested at the start of an individual tab column, they will be based on the column boundaries and remain in effect only for the text being placed within the current tab column. When a quad or justify command is given, the indents automatically will be cancelled.

command: Tab Set

keyboard as: <**TS** and the location of the right margin of each tab column measured in picas, points, or picas and points, and terminated by >.

effect: This is a "set-up" command that will have no effect until the text has been designated as tabular copy by the occurrence of the <MA command.

The total column measure will be divided into columns, as specified. The sum of the individual column measures cannot exceed the total of the overall column measure, as specified in the <CC command. A maximum of 20 individual columns may be specified.

termination: The tab set-up created by this command is terminated when:

1. another tab setting command of any type is given.
2. an <XT (Cancel Tab) command is recognized.
3. an End of Take command is recognized.

special considerations: If the sum total of the specified tab column measures exceed the column measure specified, the system ignores the total command.

Each tab column is measured from the left margin. If left indents have been specified, the left margin is considered to be moved that amount of space to the right.

The indented left margin is always assumed to be the start of the first tab column. The adjusted right margin is always assumed to be the end of the last tab column.

If the <MA command is not given at the beginning of a line, the text that follows will be treated as regular text being set within the confines of the overall column measure.

<**CC31**><**TS8,15,25.6**>
<**MA**>
1977<**QL**> 1978<**QL**> 1979<**QL**> 1980<**QL**>
First . . . . . Second . . . . Third . . . . . Fourth . . . . . .
<**QT**>

command: Tab Number

keyboard as: <**TN** and the number of tab columns to be defined within the full column measure, terminated by >.

effect: This is a "set-up" command which has no effect until text has been designated as tabular copy by a <MA command.

The column measure is divided equally, to the nearest point, into the number of tab columns specified. A maximum of 20 columns may be specified.

termination: The tab set up created by this command is terminated when:

1. another tab setting command of any type is given.
2. an <XT (Cancel Tab) command is recognized.
3. an End of Take command is recognized.

special considerations: The column measure specified by the last <CC command, less any current left and right indents, is used to compute the tab columns.

If the <MA command is not given at the beginning of a line, the text that follows will be treated as regular text being set within the confines of the overall column measure.

<**CC31**><**TN3**>
<**MA**>
1977<**QC**> 1978<**QC**> 1979<**QC**>
First . . . . . Second . . . . . Third . . . . . .
<**QT**>

command: Tab Proportion

keyboard as: <**TP** and the proportional value of each column separated by commas and terminated by >.

effect: This is a "set-up" command which has no effect until text has been designated as tabular copy by a <MA command.

The tab column measure is computed by dividing the column measure by the sum of the proportional values and multiplying that quotient by each proportional value for the individual column width.

For example, assume a column measure of 21 picas and the following Tab Proportion command:

<TP2,1,4>

the result would be three tab columns with widths of 6, 3 and 12 picas.

Proportional values are restricted to whole numbers. A maximum of 20 columns may be specified.

termination: The tab set up created by this command is terminated when:

1. another tab setting command of any type is given.
2. an <XT (Cancel Tab) command is recognized.
3. an End of Take command is recognized.

special considerations: The column measure used to compute the individual tab columns is that width specified in the column measure command less the amount of left and right indents currently in effect.

If the <MA command is not given at the beginning of a line the text that follows will be treated as regular text being set within the confines of the over-all column measure.

<CC31><TP2,3,4>
<MA>
1977**<QC>** 1978**<QC>** 1979**<QC>**
First . . . . . Second . . . . . Third . . . . . .
<QT>

command: Tab Text

keyboard as: **<TT**

effect: The command is entered in the copy string and defines the current position within the line as a tab column margin. A maximum of 19 tab text commands may be entered in a single line, creating 20 tab columns. The tab columns cannot be used until the line containing the Tab Text command(s) has been terminated. This "set-up" command has no effect until text has been designated as tabular by a <MA command.

termination: The tab set up created by these commands is terminated when:

1. another tab setting command of any type is given.
2. an <XT (Cancel Tab) command is recognized.
3. an End of Take command is recognized.

special considerations: The current tab position is computed after all quadding or justification has taken place.

The start of the first tab column and the end of the last tab column are the left and right margins, including all adjustments for indents.

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<MA>
front-end system that uses multiple video display terminals
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command: Mark Beginning Tab

keyboard as: **<MA**

effect: The <MA command specifies the beginning of tabular material. A tab "set-up" command must be in effect for the command to be effective.

termination: The command is terminated by a <QT (Quad Tab Line) command.

special considerations: The <MA command may appear anywhere within a line. When an <MA command is entered in a line, any preceding text is automatically set quad left and a new line is entered.

A <QT is automatically produced by the <MA command before the new tab line is started.

The <MA command may also cause a <PM (Point Mark) to be set, depending on the system standard.

command: Quad Tab Line

keyboard as: **<QT**

effect: If the line has been marked for tabbing (<MA), the <QT will terminate the tab mode and cause the stored or automatic leading to be performed.

termination: Not Applicable.

special considerations: If a quad code does not immediately precede the <QT, an automatic quad left will be performed on the copy preceding the <QT.

If the line has not been marked for tabbing, the <QT is ignored.

If a <QT command was not used for the preceding tab line and an <ET command is used, the End of Take command will cause a Quad Tab function to occur.

The <QT command causes a <PX (Point Maximum) followed by a <RX (Return Maximum) in systems with automatic <PM commands in tab.

command: Cancel Tabs

keyboard as: **<XT**

effect: Any stored tabs caused by tab "set-up" commands will be terminated.

termination: Not Applicable

special considerations: None.

command: Jump Tab Column

keyboard as: <**JT** and the number of columns to be jumped, terminated by >

effect: This command allows up to 19 previously defined tab columns to be treated as one column.
The number will determine how many columns, from the current column, are to be considered as one.

termination: The Jump Tab is in effect for only the current tab line, and only for the current tab column(s). When a quad command is encountered, the Jump Tab command is terminated.

special considerations: The effect of the command is immediate. If an <MA command is not given prior to the <JT, the <JT will be ignored.

<**CC31**><**TS8,15,25.6**>
<**MA**>
1977<**QL**> 1978<**QL**> 1979<**QL**> 1980<**QL**>
First . . . . . Second . . . . Third . . . . . Fourth . . . . . .
<**MA**>
1977<**QL**> 1978<**QL**> <**JT1**>Current Years<**QC**>
First . . . . . Second . . . . Straddle . . . . . .
<**QT**>

INDENT COMMANDS

Indention can be performed in multiples of an EM space (escapement relative to point size) in addition to absolute values of picas and points. All pica-type indents can accept a relative value.

Indents in Absolute Values of Picas and Points

Indents may be specified for a line, a paragraph, or a take, and indention may be for the left, right or both margins.

An indent, once specified, will exist until terminated or overridden by another indent of the same kind with a different value (including zero). Therefore, to set a 2 pica, 6 point left indent on a take, the command <IT2.6> would be used. To change the amount of left indent to 3 picas, the command <IT3> will override the prior amount of indent.

Total indention on the measure is calculated by adding the amount of indention specified by each kind of indent command in effect. Therefore, if the 3 pica indent is in effect on the take <IT3>, by entering a 2 pica paragraph indent <IP2> the total amount of left indention will be 5 picas.

Indents in Relative Values of EMS and Units

A dollar sign is used to designate relative values of indent. The relative value is evaluated for the current font and size. Each field is considered separately; therefore each relative field must contain a "$". Otherwise the value will be considered to be picas and points.

The symbol is inserted in the command immediately following the two alpha characters of the indent command. The following command, for example will now denote 2 ems and 6 units of the current point size.:

<IT$2.6>

Following is a detailed description of each indent command.

command: Indent Take

keyboard as: <**IT** and the picas, points, or picas and points of left and right indention, and terminated by >.

effect: Theindention is in effect on the first line following the command and remains in effect until the End of the Take or other terminating command is recognized.

termination: The command is terminated by execution of either an End of Take or another Indent Take command. <IT0,0> cancels any Indent Take commands.

special considerations: A comma is required to separate the left and right indention values. The comma follows the left indention value and precedes the right. If the comma is present and only one value given, the missing value is left unchanged.

A left indent of 2 picas, 3 points and a right indent of 4 picas can be specified as <IT2.3,4>.

A left indent of 16 points and a right indent of 1 pica can be stated as <IT.16,1>.

By entering a left indent of 2 picas as <IT2>, the right take indent will be left unchanged. By entering a right indent of 3 picas 4 points as <IT,3.4> the left take indent will be unchanged and the right indent will now be 3 picas, 4 points.

<IT4.6>

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<IT2,4>

All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, <**IT0,0**>even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.

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command: Indent Paragraph

keyboard as: <**IP** and the picas, points, or picas and points of left and right indention, and terminated by >.

effect: The indention is in effect on the first line following the command and remains in effect until either the End of Paragraph or other terminating command is recognized.

termination: The command is terminated by execution of either an End of Paragraph, End of Take, or other Indent Paragraph command.

special considerations: A comma is required to separate the left and right indention values. The comma follows the left indention value and precedes the right. If the comma is present and only one value given, then the missing value is left unchanged.

The <IP command functions exactly like an <IT command, except that it is cancelled with <EP.

<**IP3,2.6**>
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All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously.
<**IP5**>
In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.<**EP**>

command: Indent First Line

keyboard as: <**IF** and the picas, points, or picas and points of left and right indention, and terminated by >.

effect: The first line following an End of Paragraph command is indented the amount specified. All other lines will be set in accordance with the current line measure plus any other indents that may be specified.

termination: The command is terminated by execution of either an End of Take or another Indent First Line command.

special considerations: A comma is required to separate the left and right indention values. The comma follows the left indention value and precedes the right. If the comma is present and only one value is given, the missing value is left unchanged.

Since the <IF command takes effect after the next <EP, the <IF should be immediately followed by an <EP if the first line indent is to begin immediately. Otherwise, the <IF value is stored until the first <EP.

<IF2.6><EP>

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All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters.**<EP><IF0><EP>**

It's a true interactive operating system, the only one in its price range.

command: Indent Hang

keyboard as: <**IH** and the picas, points, or picas and points of left and right indention, terminated by >.

effect: The command provides for setting the first line following an End of Paragraph command full measure and indenting all following lines of the paragraph the amount of indent specified.

The command is in effect from the first line following the <EP command and remains in effect until an End of Take or other terminating command is recognized.

termination: The command will be terminated by:

1. End of Take command.
2. another Indent Hang command.
3. <XI (Cancel Indent Hang command).

special considerations: A comma is required to separate the left and right indention values. The comma follows the left indention value and precedes the right. If the comma is present and only one value given, the missing value is left unchanged.

Since the <IH command takes effect after the next <EP, the <IH should be immediately followed by an <EP if the indent hang is to begin immediately. Otherwise, the <IH value is stored until the first <ep.

<**IH3**><**EP**>
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All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other,<**XI**> even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.

command: Cancel Indent Hang

keyboard as: **<XI**

effect: This command terminates an Indent Hang command.

termination: Not Applicable.

special considerations: None

CCI-400 composition mark-up guide

command: Indent Text

keyboard as: <**IX**

effect: The distance from the left margin to the point at which the command occurs in the line is the amount of indention that will be applied to the following lines of copy.

termination: The command is terminated by:

1. another Indent Text command.
2. an End of Paragraph command.
3. an End of Take command.

special considerations: The measure from the left margin to the position where the <IX command was placed will become the left hand indent for all subsequent lines. The computation of the indent is based on the amount after all interword space has been properly adjusted.

The line in which the <IX command appears can be justified, quad left, right or center.

On receipt of the End of Paragraph command, all indents other than paragraph indents will be restored to their values prior to the <IX command.

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paper tape or on-line output;<**QL**>
keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.<**EP**>
All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent to the phototypesetters. It's a true interactive operating system, the only one in its price range.

command: Indent on the Left

keyboard as: <**IL** followed by up to 20 pairs of values consisting of the number of lines of indention and the indention value in picas, points, or picas and points, and terminated by >.

effect: The command specifies an amount of indention from the left margin for a given number of lines. The following command would indent each of the next 4 lines by 5 points from the left margin:

<IL4/.5>

Successive levels of indention would be accomplished by including another pair of values in the command. For example:

<IL4/.5,3/1>

would result in 5 points indention for 4 lines and 1 pica indention for the following 3 lines. A maximum of 20 pairs of values may be included in a single command.

termination: The command is terminated when:

1. the last line has been indented.
2. another <IL command is recognized.
3. an End of Take command is recognized.

special considerations: Number of lines and indents must be separated by a slash. Pairs of line/indent values must be separated by commas. Indention may be expressed in points and written as a fractional part of a pica.

A line is counted at the end of each quadded or justified line. A "zero leaded" line is not counted. An extra or reverse lead has no effect on the line count.

<IL3/0,1/4,3/6>

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command: Indent on the Right

keyboard as: <**IR** followed by up to 20 pairs of values consisting of the number of lines of indention and the indention value in picas, points, or picas and points, and terminated by >.

effect: The command specifies an amount of indention from the right margin for a given number of lines. The following command would indent each of the next 4 lines by 5 points from the right margin:

<IR4/.5>

Successive levels of indention would be accomplished by including another pair of values in the command. For example:

<IL4/.5,3/1>

would result in 5 points indention for 4 lines and 1 pica indention for the following 3 lines. A maximum of 20 pairs of values may be included in a single command.

termination: The command is terminated when:

1. the last line has been indented.
2. another <IR command is recognized.
3. an End of Take command is recognized.

special considerations: Number of lines and indents must be separated by a slash. Pairs of line/indent values must be separated by commas. Indention may be expressed in points and written as a fractional part of a pica.

A line is counted at the end of each quadded or justified line. A "zero leaded" line is not counted. An extra or reverse lead has no effect on the line count.

<IR1/0,1/2,4/6,1/1>

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command: Skew Left

keyboard as: <**SL** followed by up to 20 pairs of values consisting of the number of lines for skew (preceded by hyphen if direction of skew indent is negative—running toward the margin) followed by a slash, followed by the maximum amount of skew indent in picas, points or picas and points, followed by a comma if followed by another pair; and terminated by a >.

effect: The amount of left margin indent will be divided equally over the number of lines indicated. If the line number is preceded by a minus sign (hyphen) the skew indent will start at the maximum indicated and decrease to zero. If the line number is not preceded by the hyphen, the skew indent will start at zero and increase to the maximum indicated. Therefore:

<SL5/10,–5/10>

will indent each of the first five lines of text proportionately up to ten picas in from the left margin, and then indent the next five lines starting at ten picas in from the left margin and decreasing to zero indent.

termination: The entire Skew Left command is terminated when the specified number of lines have been set, when another Skew Left is entered or an End of Take is encountered.

special considerations: None.

<**SL-4/6,3/6**>
The CCI-400 computer is a completely automated typographic front-end system that uses multiple video display terminals; revising and editing copy; paper tape or on-line output; keyboard, magnetic tape,floppy disks and optical character recognition systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage. All this is done in a true multitasking environment, which means that all functions can be performed simultaneously.
<**SL0/0**>

command: Skew Right

keyboard as: <**SR** followed by up to 20 pairs of values consisting of the number of lines for skew (preceded by hyphen if direction of skew indent is negative—running toward the margin) followed by a slash, followed by maximum amount of skew indent in picas, points or picas and points, followed by a comma if followed by another pair; and terminated by a >.

effect: The amount of right margin indent will be divided equally over the number of lines indicated. If the line number is preceded by a minus sign (hyphen) the skew indent will start at the maximum indicated and decrease to zero. If the line number is not preceded by the hyphen, the skew indent will start at zero and increase to the maximum indicated. Therefore:

<SR5/10,–5/10>

will indent each of the first five lines of text proportionately up to ten picas in from the right margin, and then indent the next five lines starting at ten picas in from the right margin and decreasing to zero indent.

termination: The entire Skew Right command is terminated when the specified number of lines have been set, when another Skew Right is entered or an End of Take is encountered.

special considerations: None.

<SR5/8,-4/8>
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<SR0/0>

FORMAT STATEMENTS

Format statements provide a means of defining the typesetting controls and copy formatting commands with a single keyboarding of the commands, and storing them for future use when the appropriate copy is to be set. Format codes are as follows:

Store Format
Use Format
Reuse Format
End Format
Merge Copy
Use Global Format

The first four codes are used to define and store, to retrieve and to terminate formats. The Merge Copy is the command which is used both in a format statement and in a copy stream to correlate copy to the commands within the format. A format statement is bracketed by the Store Format and End Format codes. The Use Format and Reuse Format codes are used to begin execution of a format.

Any valid command for normal composition (except Store Format) may be included in writing a format as well as actual text copy.

A format may be complete and explicit and may contain a combination command and all other commands ·ded to produce a specified block of copy exactly as it is to appear.

A format may also be general, i.e., some item or items of information may be purposely left out of the format when it is written, to enable the insertion of the omitted items with the text copy when using the format.

A format is defined and stored in the Format Table using the Store Format (<SF) command. The Store Format command indicates that all keyboarded data that follows should be stored in the Format Table until either a <UF, <EF or <ET command is encountered. The format is identified by the number specified in the Store Format command and can be recalled later by a Use Format command using the same identifying number (i.e., format number 25 is defined by <SF25> and called for processing by <UF25>).

FORMAT STATEMENTS (continued)

The Merge Copy command (<MC) is used as a communication point between the format statement and the copy stream. When a format is initially called, all information within the format up to the first Merge Copy is processed as if it were data contained on the keyboarded input tape. The place in the format where the Merge Copy was found is then saved and processing continues in the input copy stream immediately after the Use or Reuse Format which called the format originally, at which time processing continues in the format at the "saved" position. An example of the interaction between input copy and a stored format follow. The X's denote either commands or text copy.

INPUT COPY	FORMAT 25
<UF25>	X
X	X
X	X
X	X
MC	MC
X	X
X	X
X	X
X	X
MC	MC
X	X
X	X
X	<EF

FORMAT STATEMENTS (with PageBuilder)

Nested Formats

The paging module allows up to 5 levels of nested formats. The nesting of formats means that a format is not automatically cancelled by calling a new one. Instead, up to 5 formats can operate at the same time. The interaction between formats would be as follows:

<SF1> TYPESETTING <MC> IS EASY <EF>

<SF2> WITH FORMATS <EF>

Text keyed as <UF1> <UF2> <MC> would produce:

TYPESETTING WITH FORMATS IS EASY

In this example, the <MC> would pick up the second part of Format 1, since that format was not cancelled by the call for Format 2. If Format 2 had had a <MC> the <MC> in text would have referred to the second part of Format 2, and it would require another <MC> to get to the second part of Format 1. An example of this is:

<SF1> TYPESETTING <MC> IS EASIER <EF>

<SF2> WITH FORMATS <MC> AND NESTED FORMATS <EF>

Text keyed as <UF1> <UF2> <MC> <MC> would produce:

TYPESETTING WITH FORMATS AND NESTED FORMATS IS EASIER

Another common use of nested formats would be to begin a delay line or delay measure format and allow it to nest temporarily while calling for another format. The delay line and/or measure command will continue to count while the format is nested, but in order to activate the desired change when the delay has been reached, the format must have come out of the nest and be active.

The table can hold 5 formats at a time. If the table is full and a new format is used, the oldest format in the nest will be bumped out. It will then be impossible to return to this format, except by a new Use Format call.

In order to avoid unneccesary nesting of formats, it is suggested that merges be used with discretion and that formats containing merges be written in a way that allows for the completion of the format. Or, if there is no need to nest a particular format which has not been terminated an End Format (EF) command can be inserted in the text before the call for a new format to prevent nesting.

A format calling itself will restart the format and not nest it. The Reuse Format command should not be used with nested formats.

CCI-400 composition mark-up guide

command: Store Format

keyboard as: <**SF** and a number between 1 and 250, which identifies the format, and terminated by >.

effect: The <SF instructs the system that the subsequent commands and/or text are to be stored as part of a format for future use. The End Format, Use Format, or Use Global Format and End of Take signal the end of a format statement.

termination: All characters following the Store Format command are treated as part of a format statement until a format terminator is recognized.

These "job formats", as opposed to Global Formats, must be input as part of the job with which they are to be used, preferably at the beginning of the job.

Please refer to the CCI-400 terminal operator's guide for the section describing Global Formats which are stored via the VDT.

special considerations: On multiple galley jobs, formats stored under galley –9999 for any job will be in effect for all other galleys associated with that job.

In automatic galleyization, the system will strip off all stored formats in a job after breaking it into galleys and place the formats under galley –9999 automatically.

command: End Format

keyboard as: **<EF**

effect: This command terminates both the storing and execution of a format statement. The command can be used in the copy stream (after a Use Format command has been issued) to indicate that the format is to be terminated.

termination: Not Applicable.

special considerations: The End Format is required for termination of the type of format stored via the input stream with the <SF command.

An automatic <EF is generated when storing a "Global Format" using the FORMAT PROCESSING procedure with the vdt. Please refer to the terminal operator's guide.

command: Use Format

keyboard as: <**UF** and the number of the format that is to be used and terminated by >.

effect: The copy following the command will be set as specified by the commands in the format statement.

termination: The format in execution is terminated when another <UF or <UG command is encountered in either the format or the text stream or an <EF or <ET command is recognized.

special considerations: The format number is verified as identifying a format stored in memory. If reference is to an unidentified format, an error message will appear on the vdt screen. Processing of copy will continue but the job cannot be output.

On encountering the <UF command, the format requested is immediately processed up to the first <MC at which time processing is continued in the input copy stream.

command: Use Global Format

keyboard as: <**UG** and the number of the format that is to be used and terminated by >.

effect: The copy following the command will be set as specified by the commands in the format statement.

termination: The format in execution is terminated when another <UG or <UF command is encountered in either the format or the text stream or an <EF or <ET command is recognized.

special considerations: The format number is verified as identifying a format stored in memory. If reference is to an unidentified format, an error message will appear on the vdt screen. Processing of copy will continue but the job cannot be output.

On encountering the <UG command, the format requested is immediately processed up to the first <MC at which time processing is continued in the input copy stream.

command: Reuse Format

keyboard as: **<RF**

effect: The Reuse Format command will reprocess the last format requested by a Use Format or Use Global format command. Therefore, if format 25 had been the last format processed that format will be reprocessed from the start as if <UF25> (or <UG25>) had been re-entered (even though an <EF may have been processed).

termination: Not Applicable.

special considerations: If no format had been requested by a Use Format or Use Global format or if the previously requested format is no longer in the format table, the <RF command is ignored.

command: Delay Lines

keyboard as: <**DL** followed by the number of lines of delay, followed by a >.

effect: This command is valid only within a format, and it causes a return to the input text stream. After the number of lines requested in the <DL has been set, an automatic return will be made back to the format.

Therefore, if it is desired to have the first two lines of a paragraph bold face followed by standard face, the format would contain the following commands:

<SF25>...<CFHB> <DL2> <CFH> <EF

termination: The delay is terminated by an End of Take command or by a return (merge copy) from the text stream back to the format prior to setting the number of lines requested.

special considerations: If a return (Merge Copy) is made back to the format prior to all delay lines being set, processing will continue within the format **after** the first return (Merge Copy) following the Delay Line command.

A Delay Line command found in the text stream is ignored.

command: Delay Measure

keyboard as: < **DL** $ n >

effect: This command is the same as Delay Lines < **DL** n > but it measures depth in picas and points, instead of lines.

The command is valid only within a format, and it causes a return to the input text stream. After the typesetter has reached the number of picas and points in depth specified, an automatic return will be made back to the format. The accounting for the depth of a < **DL** will be performed even though the format is nested. This means that more than one < **DL** can be in effect at a time. But the return to the format following a delay line command can only be made to an active format (not a nested one). If a delay depth is reached while the format containing the < **DL** is nested, the return will occur as soon as the active format is terminated (in other words, when the < **DL** format becomes active).

If, for example, it is desired that when the text has reached a depth of 2 picas, the typeface should change, the format would contain the following commands:

<SF25> . . .<CFHK> <DL$2> <CFH> <EF

termination: The delay is terminated by an End of Take command or by an End Format <**EF**> in the text.

special considerations: A Delay Line command found in the text stream is ignored.

command: Merge Copy

keyboard as: **<MC**

effect: The Merge Copy command is used both in the keyboarded input stream and the format statement. When a Merge Copy is found in the format it indicates that the next character to be processed is in the input stream and processing should continue in the input stream until the next Merge Copy is found (which will transfer control back into the format statement).

termination: Not Applicable.

special considerations: Within the copy, the Merge Copy must follow, not necessarily immediately, a Use Format or Reuse Format, otherwise the command will be ignored.

When using formats, care must be taken to insure that the Merge Copy is given at the proper point in the text string. If the operator confuses the sequence of Merge Copy codes, the text will be jumbled. When the operator senses such a case, the format should be terminated and the copy re-keyboarded.

<SF1><CC31><DL5><CC15><MC><CFHB><EF>

<UF1>

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CCI-400 composition mark-up guide

command: Punch Data as Visual Label

keyboard as: <**PV** and the operator message, and terminated by a >.

effect: The operator message will be punched at the beginning of the paper output tape in a visual (readable) form.

termination: Not Applicable.

special considerations: If the command appears within a line, that line will be terminated and set quad left. The copy following the command will start a new line.

The visual message can contain a maximum of 100 characters.

command: Continue Tape

keyboard as: **<CT**

effect: The Continue Tape command allows the user to enter a take into the system in the form of multiple physical paper tapes. Each tape ending with a <CT command causes the reader to ignore further codes in the tape. When a new tape is loaded and the Ctrl X command is issued from the Teletype, the new text will be considered as part of the text of the prior tape.

termination: The take is ended when the reader encounters an <ET or the physical end of the tape is sensed without reading a <CT.

special considerations: This command is available only in systems furnished with the automatic galley-breaking feature.

command: Quad from Middle

keyboard as: <**QM**

effect: The contents of the line up to the Quad Middle command will set flush left and the remainder of the line will set flush right. The line is terminated by any of the following commands placed right after the text to set flush right: Quad Left, Quad Right, Quad Center, End Paragraph, Justify or End of Take.

termination: Not Applicable.

special considerations: If the flush right portion results in an overset line, the line will justify and the remainder will set according to the line terminating command used.

Multiple <QM commands may be inserted in a single line and the available space will be equally divided among them.

The CCI-400 computer is a completely automated typographic front-end system that uses:
multiple video terminals<**QM**> for revising and editing;<**QR**>
paper tape or on-line output;<**QM**> keyboard, magnetic<**QR**>
tape<**QM**> floppy disks and<**QR**>
systems for input of new copy; and<**QM**> rigid-disk data <**QR**>

command: With Leaders

keyboard as: <**WL**

effect: The With Leader command causes leaders to be inserted at this point in the line. If the command is embedded in a line, the copy surrounding the <WL will be set flush left and right and the remaining space will be filled with leader dots.

termination: Not Applicable.

special considerations: The alignment of the leader dots is dependent upon the quad code at the end of the line:

1. Quad Left—the leader dots are set flush right, assuming the text is flush left.
2. Quad Right—the leader dots are set flush left, assuming the text is flush right.
3. Quad Center—the leader dots are forced to align vertically on all lines, assuming text precedes and follows the <WL command.

Multiple <WL commands may be inserted in a single line and the available space for leader insertions will be equally divided among the <WL insertions.

NAME<**WL**> . . . . . .
ADDRESS<**WL**> . . . . . .
CITY<**WL**> . . . . . STATE<**WL**> . . . . . ZIP

command: With Character

keyboard as: <**WX**> immediately followed by the character that is to be inserted repetitively in the line.

effect: The effect is the same as With Leaders except the specified character is used in place of leader dots.

termination: Any quad code (<QL, <QR, <QC) may be used to terminate the line containing the <WX command.

special considerations: Same as described for the With Leader command.

The <WX command is most frequently used to create a ruled horizontal line by repeating either a base line rule or an em dash.

If a font change is required to access the character to be inserted, the <CF command must be issued **before** the <WX> command and not between it and the character to be inserted.

Multiple <WX commands may be inserted in a single line and the available space for character insertions will be equally divided among the <WX insertions.

The CCI-400 computer<**WX**>- -------- is completely automated<**QR**>
typographic front-end system<**WX**>! !!<**QR**>

command: With Rule

keyboard as: <**WR**

effect: The With Rule command causes a rule to be inserted at this point in the line. If the command is embedded in a line, the copy surrounding the <WR will be set flush left and right and the remaining space will be filled with a rule.

termination: Not Applicable.

special considerations: In digitized typesetters, as many as 10 different rule weights may be accessed by keying <WR0> through <WR9>. By default, the lightest weight is set.

In photomechanical typesetters such as the V-I-P, the <WR> function has only one weight. The system uses the pi character lookup table value for the character $ zz. If the character used does not fill the measure, the system will set the rule flush right and then overprint the first character in the line to set the rule to the exact measure specified.

In photomechanical typesetters, only one <WR> value is possible. In certain fonts, however, the $zz code can be altered by using the pi character exception table for that font.

NAME<**WR**> _____

ADDRESS<**WR1**> _____

CITY<**WR2**> _____

STATE<**WR3**> _____ ZIP

command: Underscore

keyboard as: <**US**

effect: The Underscore command causes a standard weight rule to set underneath the following text.

termination: The Underscore is turned off at the next <US> command.

special considerations: In photomechanical typesetters such as the V-I-P, the <WR> function is the weight of the $ zz character in the automatic pi lookup table.

If the character used for the underscoring rule does not fill the measure, the system will set the rule flush right and then overprint the first character in the line to set the rule to the exact measure needed.

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command: Define Vertical Rule

keyboard as: <**DV** followed by the vertical rule numbers from 1 to 20.

effect: The Define Vertical command causes the system to store the horizontal point across the page for use later in setting the Vertical Rule.

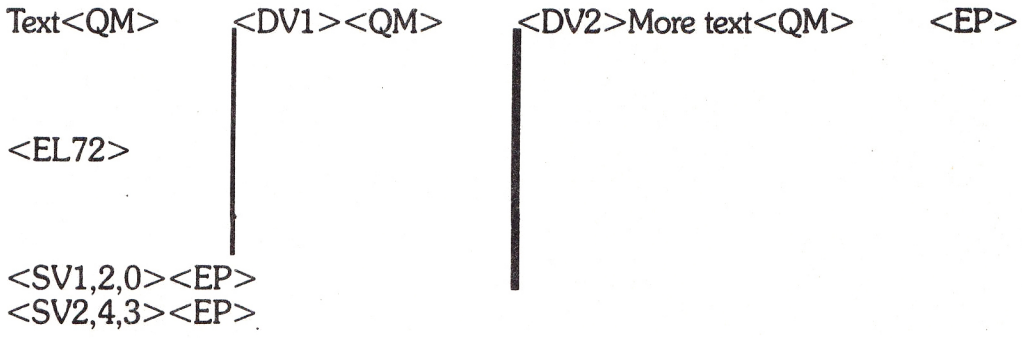
termination: Not Applicable.

special considerations: The Vertical Rule will be set flush left starting at the point across the page where the <DV is placed. The Vertical Rule will set from the baseline of the line containing the <DV to the baseline of the line containing the <SV or Set Vertical Rule instruction.

command: Set Vertical Rule

keyboard as: <**SV** followed by the number of the vertical rule desired, the weight of the rule desired, and the amount of backspace in half points to displace the rule.

effect: The Set Vertical command causes the system to set a vertical rule starting at the baseline of the line containing the <DV or Define Vertical command and ending at the baseline of the line containing the <SV or Set Vertical command. The vertical rule weight is specified in the <SV command, as is the amount of backspace in half units to be applied to the rule. For example, to set two vertical rules, the first two points in weight and the second 4 points in weight, we first define the points in the line from which to drop the rule with the <DV command. We then define the point vertically to which to set the rule, what weight should be set and what backspace should be applied with the <SV command:



Rule number one (<SV1) above is set two points wide (<SV1,2) and flushed left on the defined point without backspace (<SV1,2,0>). Rule number two (<SV2) is set four points wide (<SV2,4) and centered on the defined point with backspace 2 points of backspace (<SV2,4,4>).

command: No Escapement

keyboard as: **<NE**

effect: The character following the <NE command will be flashed but will be considered to have an escapement (width) value of zero.

termination: The <NE command is automatically terminated after the next flashable character or upon an End of Take.

special considerations: After the <NE command is issued, it will remain in effect until a flashable character is encountered.

The CCI-400 computer<**NE**>*
is a completely automated typographic
front-end system that uses multiple<**NE**>*
video display terminals for revising and editing.

command: No Flash

keyboard as: <**NF**

effect: The text following the <NF command will use normal character escapement values, however, no characters will be flashed until termination occurs.

termination: The <NF command is terminated by:

1. An<XF (Cancel No Flash) command.
2. Termination of the current line (caused either by operator's coding or the system's end-of-line decision).

special considerations: None.

The CCI-400 computer
The<**NF**> CCI-400 <**XF**>computer
The computer

command: Cancel No Flash

keyboard as: **<XF**

effect: To cancel a <NF command and allow characters to flash normally.

termination: Not Applicable.

special considerations: If a <NF command has not been entered, or is not currently in effect, the <XF command will be ignored.

CCI-400 composition mark-up guide

command: Allow Hanging Punctuation

keyboard as: <**HP**

effect: This command must be entered prior to the copy.

a. The measure will be moved 9 points to the right.

b. The following start of line punctuation will be set in the 9 point gutter flush with the first character of the line:

1. Single Quote
2. Double quote
3. Asterisk

c. The following end-of-line punctuation will be set beyond the measure, immediately after the last character of the line:

1. Period
2. Hyphen
3. Comma
4. Single quote
5. Double quote
6. Asterisk

termination: The Hanging Punctuation mode is terminated by an <XP command (Cancel Hanging Punctuation) or an End of Take.

special considerations: Since the measure is adjusted 9 points to the right, a specified 20 pica measure will, in effect, be computed as if it were a measure of 20 picas, 9 points with an indent on the left of 9 points.

<**HP**>
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<**XP**>
All this is done in a true multi-tasking environment, which means that all functions can be performed simultaneously. In this way, many operators can use the system totally independently of each other, even while text data is being input and output data is being sent

command: Cancel Hanging Punctuation

keyboard as: **<XP**

effect: Although this command will not normally be used, it will cause the current line and all succeeding lines to be set normally, with all punctuation contained within the measure.

termination: Not Applicable.

special considerations: If a copy block disallowing hanging punctuation follows copy in which it was allowed, alignment of both blocks can be effected by increasing the measure of the second block by nine points and using an Indent Take of 9 points from the left margin.

command: Allow Fractions

keyboard as: <**AF**

effect: Fractions in any value will be created using numerals from the current font and the fraction bar font character.

The fraction is identified as a numeric–regular slash–numeric string in any combination. If the fraction is preceded by numeric integers, the last integer and the fraction must be separated by a hyphen (which will not be output). The fraction may be embedded within a word containing non-numeric characters.

termination: The Allow Fraction mode is terminated by <XA, Cancel Automatic Fractions.

special considerations: According to customer preference, the installation standard may be either always allowing for automatic fractions or never allowing automatic fractions. In either case, the commands <AF and <XA will call in the desired status for each job.

<**XA**>
The CCI-400/222 computer is a completely automated typographic front-end system.
<**AF**>
The CCI-400/222 computer is a completely automated typographic front-end system.

command: Cancel Automatic Fractions

keyboard as: **<XA**

effect: Cancels the <AF or Allow Automatic Fraction command.

termination: The Cancel Automatic Fraction mode is terminated by <AF, Allow Automatic Fractions.

special considerations: According to customer preference, the installation standard may be either always allowing for automatic fractions or never allowing automatic fractions. In either case, the commands <AF and <XA will call in the desired status for each job.

command: Kern Numeric One

keyboard as: <**KO**

effect: If this command is encountered in non-tabular text, the numeric character "one" will be kerned one relative unit from both sides of the character. The command will be cancelled automatically when an <MA (Mark Beginning of Tabular Line) command is encountered.

If the <KO command is encountered within a tab column, the kern of the numeric "one" will be performed until terminated by a <XO (Cancel Numeric One Kern) command or an <MA command. The <QT (Quad Tab) command will restore the Numeric One Kern back to standard.

termination: Not Applicable.

special considerations: None.

<**KO**>
The 1,010 CCI-400 computers are completely automated typographic front-end systems that use:

111 multiple video display terminals;
215 paper tape or on-line outputs;
309 keyboards

and ocr systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.

<**XO**>
The 1,010 CCI-400 computers are completely automated typographic front-end systems that use:

111 multiple video display terminals;
215 paper tape or on-line outputs;
309 keyboards

and ocr systems for input of new copy; and rigid-disk data files for up to 160 million characters of storage.

command: Cancel Numeric One Kern

keyboard as: **<XO**

effect: When this command is encountered, the numeric "one" character is assigned the width value specified in the current font; no special kerning will take place.

termination: Not Applicable.

special considerations: Care should be exercised in non-tabular composition such as numbered paragraphs where consistent indents based upon the width of figures is required. The <XO command should be used in such cases.

CCI-400 composition mark-up guide

command: Allow Small Caps

keyboard as: <**SC**

effect: All lower case characters will be interpreted as being small caps and will be modified by the program to be several sizes smaller than the current size and expanded slightly to hold the weight. All cap characters will be set in the current face and size as caps.

termination: Small caps will be immediately terminated on receipt of a Cancel Small Caps <XC command or upon End of Take.

special considerations: Auto-kern between small cap characters will be performed based on the relative units specified for the modified font. Automatic ligature generation will be cancelled.

The CCI-400 computer is a completely <**SC**>AUTOMATED TYPOGRAPHIC FRONT-END SYSTEM <**XC**>that uses multiple video display terminals for revising and editing copy; paper tape or on-line output; keyboard, magnetic tape, floppy disks and optical character recognition systems for input of new copy.

command: Cancel Small Caps

keyboard as: <XC

effect: The small caps mode, if in force, will be cancelled and normal lower case retrieval will be restored.

termination: Not Applicable.

special considerations: The system standard mode for ligature generation will be resumed.

command: Access Secondary Dictionary

keyboard as: <**SD** followed by a numeric value of 1 to 99 identifying the dictionary to be used, followed by >.

effect: The Secondary Dictionary command activates the requested dictionary for operation in the current take. The secondary dictionary is scanned for the candidate word prior to the standard English dictionary. If the word or word stem is found, the word is not passed against the English dictionary but will be processed through logical hyphenation and suffix tables.

termination: The Secondary Dictionary request is terminated with the End of Take command.

special considerations: Only one secondary dictionary can be in effect at one time for any take.

command: Enter Dictionary (temporary)

keyboard as: <**ED** followed by the word to be stored including all hyphen locations, followed by >.

effect: The Enter Dictionary command enters the word following the <ED command into a temporary dictionary intended for the current take only. This dictionary will be scanned prior to the logical hyphenation routines as well as other dictionaries.

termination: All words stored in the temporary dictionary with the <ED command are canceled with an End of Take.

special considerations: None.

command: Allow Ligatures

keyboard as: **<AG**

effect: The command causes automatic lookup and insertion in the output text stream of all ligatures possible in the system.

termination: The Cancel Ligature command <XG.

special considerations: The grid or sequence position of the ligatures must be listed in the General Specifications Table of the Width Table for the font in use. If no ligature lookup is listed, no ligature will be generated.

command: Cancel Ligatures

keyboard as: **<XG**

effect: The command causes automatic lookup and insertion of ligatures to be terminated.

termination: The Allow Ligature command <AG.

special considerations: Ligature generation is an installation standard which may be altered through the use of the <AG and <XG commands.

command: Set Justification

keyboard as: < **SJ** n >

effect: In justified copy, when a quadded line (usually an end of paragraph) is n points from the full column measure, the line will be set justified.

termination: The command is terminated by another <**SJ**> command or by an End of Take.

special considerations: This command has no effect during ragged setting.

If the <**SJ**> is not specified the system standard will be used.

<**SJ24**>
This is a paragraph whose last line will justify to the full measure when the Set Justify Command is at or over 24 points.

<**SJ2**>
The last line of this paragraph will not justify to the full measure when the Set Justify Command is set at 2 points.

command: End of Take

keyboard as: **<ET**

effect: The command causes termination of the current line and quads it left. All formats and special condition commands currently in effect will be terminated.

termination: Not Applicable.

special considerations: The column width, font, point size and leading are restored to the system standards.

If paper tape is being output by the system, blank tape will be produced at each End of Take.

command: Galley Define

keyboard as: < **GD** a, b, c, d >.

effect: The galley define command sets the parameters for the breaking of the galleys. The command contains the following information:

a) Minimum galley depth (0 if Vertical Justification is desired)
b) Maximum galley depth (170 picas maximum)
c) Minimum count of lines at the start of a paragraph which should not be split during galleyization (if Vertical Justification is specified)
d) Minimum count of lines at the end of a paragraph which should not be split during galleyization (if Vertical Justification is specified).

termination: The command is terminated by an End of Take.

special considerations: The galley define command must appear in the first galley of a chapter. Further entries of the command will cause a galley error.

If the command is not entered, standard values will be used. If the depth is being changed both minimum and maximum must be entered.

Vertical justification will occur when the minimum galley depth is set to zero. Vertical spacebands and interline spacing will be expanded or contracted to the limits specified in the <**VE** command or in the system standards if no <**VE** is used.

Parameters C and D are ignored when a is not 0. In this case, pages will be broken only following an <**EP**> or <**SP**> command.

command: Break Galley

keyboard as: < **BG** >

effect: Forces galley break prior to the current line.

termination: Does not apply.

special considerations:

1. Do not place <**BG**> at a hyphen point.
2. To vertically justify a single page of text, place a <**BG**> at end of text, followed by an <EM> <QR>.

command: Disallow Break

keyboard as: < **DB** >

effect: Will not allow a galley/page break after the current line.

termination: Disallow Break is cancelled by an Allow Break <**AB**> or by an End of Take.

command: Allow Break

keyboard as: < **AB**

effect: Will re-allow a galley/page break after the current line.

termination: The command is terminated by a Disallow Break <**DB**> or by an End of Take.

command: Conditional Break

keyboard as: < **CB**

effect: Will allow a galley/page break to occur if necessary prior to this line even though other factors would normally disallow the break.

termination: Does not apply.

command: Vertical Expansion

keyboard as: < **VE** a, b, c>

effect: This command defines the limits of expansion and contraction allowable for vertical spacebands and interline leading. The command contains the following:

a) maximum contraction percent for vertical spacebands;
b) maximum expansion percent for vertical spacebands (not to exceed 1599%);
c) maximum fractional units of leading (specified in basic leading for the typesetter) to be added or subtracted from each line to achieve vertical justification when the limits of the vertical band have been met. This process is usually referred to as feathering or carding.

termination: The command is terminated by an End of Take.

special considerations: When limits of both vertical spacebands and interline spacing are exceeded, an error message "VJST" will be displayed on the VDT. Composition is allowed despite the "VJST" error. The page will set longer than specified with the contraction down to minimum or if the error occurred because the page was short, it will expand to fit the depth desired, using unlimited carding once the vertical spaceband has reached the 1599% limit or 16 times the vertical spaceband specified).

If the command is not entered, standard system parameters will be used.

command: Vertical Band

keyboard as: < **VB** n >

effect: This command adds an immediate (flexible) n points of vertical leading at the point it is called for in text.

The system considers the vertical band to be identical to <**EL**n> except when the job is run through vertical justification. The vertical justification process will determine the appropriate expansion or contraction percentage (using the <**VE** command that was entered at the beginning of the galley or the system default parameters if no < **VE** command was entered) to achieve justification and apply this factor to each <**VB** amount. At all other times, the <**VB** command will be treated as a fixed amount of extra lead.

n = points and fractions.

termination: Not applicable.

special considerations: The fractions depend on the basic leading units of the typesetting device being used.

command: Vertical Justification

keyboard as: < **VJ** n >

effect: The copy block following the < **VJ** command will be vertically justified to a depth of n picas and points. The justification parameters will be specified by a preceding < **VE** command or by user default.

termination: The copy block will be terminated by an < **EJ** , < **BG** , < **ET** , or another < **VJ** command.

special considerations: The chapter must be in galley form to implement this command.
The command <**VJ** can be used within a format.

command: End Vertical Justification

keyboard as: < **EJ** >

effect: This command marks the end of a block of copy to be vertically justified to the depth specified in the < **VJ** command.

termination: Not applicable.

special considerations: If a vertical justify error occurs for the copy block, the "VJUST" error message will appear by the < **EJ** of that block.

command: Start Paragraph

keyboard as: < **SP** >

effect: The start paragraph command allows a galley/page break for the current line. It differs from the <**EP**> command in that it is ignored for typographic purposes. It does not trigger or terminate other commands as <**EP**> does.

termination: Not applicable.

special considerations: Unless the system is vertically justifying the page (using <**GD 0, n**>) pages can be broken only on lines ending in <EP> or <SP>.
<QL> <QC> <QR> and <JU> are not considered possible galley/page break points.

The <SP> does not cause any quadding to occur.

command: Begin Number Counter

keyboard as: < **BN** n

effect: Loads the number counter with the value specified in n. n must be between 1 and 4000.

termination: Does not apply.

command: Print Number Counter

keyboard as: < **PN** >

effect: The current contents of the number counter will be typeset immediately when the < **PN** > command is encountered. After being output, the value in the counter will be incremented by one.

The maximum value is 9999.

If no < **BN** is entered, 1 is assumed.

termination: Does not apply.

special considerations: The number 1 is not kerned when it is printed from the <**PN** > command.

(BN100)
(PN). **(IX)**This command can be used in a format to create folios.**(EP)**
(PN). **(IX)**It can also be used in the job to number a list of items.**(EP)**
(PN). **(IX)**And it is useful in galley slugs to keep track of the galley.**(EP)**

will produce:

100. This command can be used in a format to create folios.
101. It can also be used in the job to number a list of items.
102. And it is useful in galley slugs to keep track of the galley.

command: Start All Caps

keyboard as: < **SK** >

effect: All alphabetic characters following the command will be set on the typesetter in upper case.

termination: The command is terminated by an End All Caps <**EK**> or by an End of Take.

special considerations: Non alphabetic characters (numbers, special characters) will not be affected by this command.

(SK) Price is secondary in importance to service **(EK)** in systems software purchasing decisions. In addition, MIS directors look for software vendors who keep upgrading their products.

will produce:
PRICE IS SECONDARY IN IMPORTANCE TO SERVICE in systems software purchasing decisions. In addition, MIS directors look for software vendors who keep upgrading their products.

command: End All Caps

keyboard as: < **EK** >

effect: Terminates the Start All Caps Command.

termination: Not applicable.

command: Escape Immediate

keyboard as: < **EI** n, m >

effect: If m is not entered, an immediate escapement of n points will be performed.
If m is entered, a rule n points long with a thickness of m will be drawn immediately.
n = points and fractions.
m = weight of rule (in basic leading units or thickness code depending on typesetter)

termination: Not applicable.

special considerations: This can be used in conjunction with the underscore command to provide a rule of a fixed space within a paragraph.

Escape Immediate is used here **(EI24)** to insert a fixed space of 24 points.
Escape Immediate is used here to insert a fixed space of 24 points.

Escape Immediate is used here **(EI30,0)** to insert a number 0 baseline rule of exactly 30 points.
Escape Immediate is used here_____to insert a number 0 baseline rule of exactly 30 points.

command: Save Status

keyboard as: < **SS** >

effect: All parameters for the line will be saved following this command.

termination: The command is terminated by a Restore Status <**RS**> command or by an End of Take.

special considerations: The command can be used in format but must always be placed after an end of line.

The job must be in chapter form for this command to take effect.

command: Restore Status

keyboard as: < **RS** >

effect: This restores the parameters to those being saved with the <**SS** > command.

termination: Does not apply.

special considerations: The command can be used in format but must always be placed after an end of line.

The job must be in chapter form for this command to take effect.

command: Set Justification

keyboard as: < **SJ** n >

effect: In justified copy, when a quadded line (usually an end of paragraph) is n points from the full column measure, the line will be set justified.

termination: The command is terminated by another <**SJ**> command or by an End of Take.

special considerations: This command has no effect during ragged setting.

If the <**SJ**> is not specified the system standard will be used.

<**SJ24**>
This is a paragraph whose last line that will justify to the full measure when the Set Justify command is set at 24 points.

<**SJ2**>
This is a paragraph whose last line that will justify to the full measure when the Set Justify command is set at 24 points.

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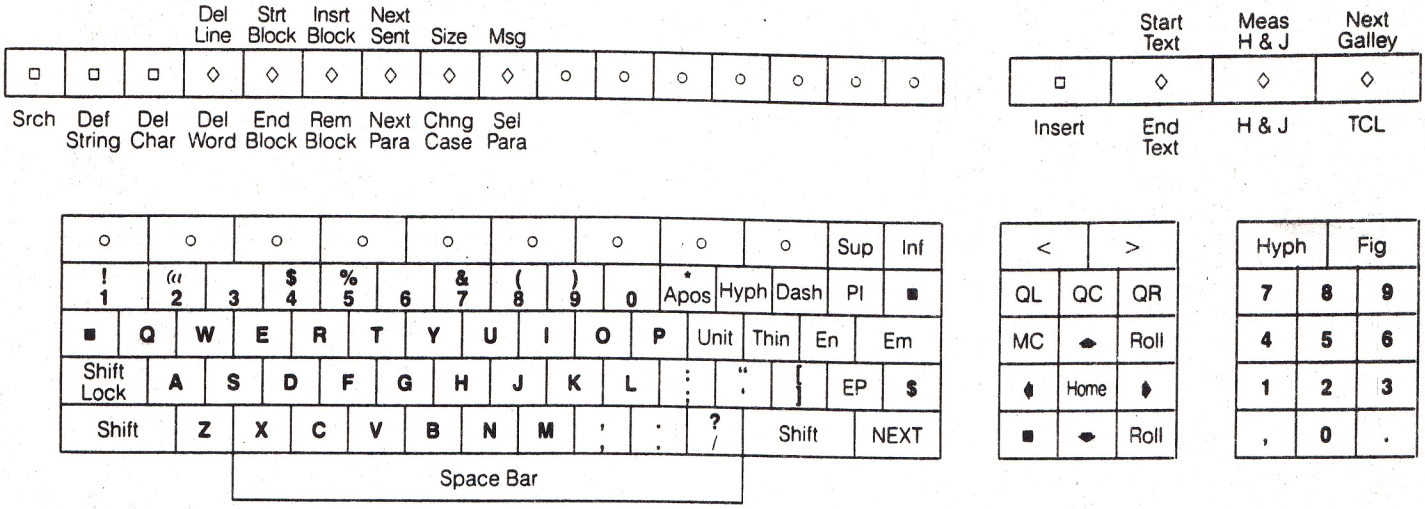
CCI-400 Video Display Terminal Keyboard:



○ = Programmable Key
□ = Single Function Key
◇ = Key with Different Shift and Unshift Functions
■ = Unavailable for Use
A = Standard Shift and Unshift Character